=> b reg FILE 'REGISTRY' ENTERED AT 16:55:02 ON 07 JAN 2008 USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT. PLEASE SEE "HELP USAGETERMS" FOR DETAILS. COPYRIGHT (C) 2008 American Chemical Society (ACS)

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STRUCTURE FILE UPDATES: 6 JAN 2008 HIGHEST RN 960045-19-6 DICTIONARY FILE UPDATES: 6 JAN 2008 HIGHEST RN 960045-19-6

New CAS Information Use Policies, enter HELP USAGETERMS for details.

TSCA INFORMATION NOW CURRENT THROUGH June 29, 2007

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http://www.cas.org/support/stngen/stndoc/properties.html

REP G1=(0-1) AK

VAR G2=C/N

NODE ATTRIBUTES:

DEFAULT MLEVEL IS ATOM

GGCAT IS PCY UNS AT 18

DEFAULT ECLEVEL IS LIMITED

ECOUNT IS E1 O AT 18

GRAPH ATTRIBUTES:
RING(S) ARE ISOLATED OR EMBEDDED
NUMBER OF NODES IS 18

STEREO ATTRIBUTES: NONE

L3 320091 SEA FILE=REGISTRY ABB=ON PLU=ON OC4-C6/ES L5 150 SEA FILE=REGISTRY SUB=L3 SSS FUL L1

100.0% PROCESSED 3308 ITERATIONS 150 ANSWERS SEARCH TIME: 00.00.01

=> b reg FILE 'REGISTRY' ENTERED AT 16:55:08 ON 07 JAN 2008 USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT. PLEASE SEE "HELP USAGETERMS" FOR DETAILS. COPYRIGHT (C) 2008 American Chemical Society (ACS)

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STRUCTURE FILE UPDATES: 6 JAN 2008 HIGHEST RN 960045-19-6

DICTIONARY FILE UPDATES: 6 JAN 2008 HIGHEST RN 960045-19-6

New CAS Information Use Policies, enter HELP USAGETERMS for details.

TSCA INFORMATION NOW CURRENT THROUGH June 29, 2007

Please note that search-term pricing does apply when conducting SmartSELECT searches.

REGISTRY includes numerically searchable data for experimental and predicted properties as well as tags indicating availability of experimental property data in the original document. For information on property searching in REGISTRY, refer to:

http://www.cas.org/support/stngen/stndoc/properties.html

=> b hcap FILE 'HCAPLUS' ENTERED AT 16:55:22 ON 07 JAN 2008 USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT. PLEASE SEE "HELP USAGETERMS" FOR DETAILS. COPYRIGHT (C) 2008 AMERICAN CHEMICAL SOCIETY (ACS)

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FILE COVERS 1907 - 7 Jan 2008 VOL 148 ISS 2 FILE LAST UPDATED: 6 Jan 2008 (20080106/ED)

New CAS Information Use Policies, enter HELP USAGETERMS for details.

This file contains CAS Registry Numbers for easy and accurate substance identification.

=> d bib abs hitstr 128 tot

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L28 ANSWER 1 OF 16 HCAPLUS COPYRIGHT 2008 ACS on STN
     2006:1154936 HCAPLUS
     145:471564
     Method for the production of 5-[4-[4-(5-cyano-3-indolyl)butyl]-1-
ΤI
     piperazinyl]benzofuran-2-carboxamide
     Bathe, Andreas
     Merck Patent G.m.b.H., Germany
     PCT Int. Appl., 12pp. CODEN: PIXXD2
DT
     Patent
     German
FAN.CNT 1
                                                APPLICATION NO.
     PATENT NO.
                           KIND
                                 DATE
                                                                         DATE
     WO2006114202
                            A1
                                  20061102
                                                2006WO-EP03344
                                                                         20060412
             AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD,
              GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR,
              \mbox{KZ, LC, LK, LR, LS, LT, LU, LV, LY, MA, MD, MG, MK, MN, MW, MX,}
              MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE,
              SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC,
              VN, YU, ZA, ZM, ZW
          RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE,
              IS, IT, LT, LU, LV, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ,
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GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM 20061102 DE 2005-102005019670 20050426 DE102005019670 Al PRAI DE 2005-102005019670 A 20050426 CASREACT 145:471564

CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG, BW, GH,

$$\begin{array}{c|c} L & & HN \\ \hline \\ O & CONH_2 \\ \hline \\ \end{array}$$

 $5-[4-[4-(5-Cyano-3-indoly1)\,buty1]-1-piperaziny1]\,benzofuran-2-carboxamide$ and/or a physiol. acceptable salt is prepared by the reaction of benzofurancarboxamides (I; L=Cl, Br, I, SO2F, SO2CF3, SO2CF5) with 3-(4-piperazin-1-ylbutyl)indole-5-carbonitrile in the presence of aPd-catalyzed coupling using Pd complexes, and/or the formed  $5-\left[4-\left[4-\left(5-\text{cyano}-3-\text{indolyl}\right)\text{butyl}\right]-1-\text{piperazinyl}\right]\text{benzofuran}-2-\text{carboxamide}$ is converted into an acid-addition salt by treatment with an acid, or by a second method in which a benzofuran-2-carboxamide (II) or an HX addition salt (X= CI, Br) is reductively aminated with 3-(4-oxo-butyl)-1H-indol-5carbonitrile, and/or 5-[4-[4-(5-cyano-3-indoly1)-buty1]-1piperazinyl]benzofuran-2-carboxamide is converted into an acid-addition salt by treatment with an acid. 163521-12-8P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent) (method for the production of 5-[4-(4-(5-cyano-3-indoly))butyl]-1-

piperazinyl]benzofuran-2-carboxamide) 163521-12-8 HCAPLUS

2-Benzofurancarboxamide, 5-[4-[4-(5-cyano-1H-indol-3-yl)butyl]-1piperazinyl] - (CA INDEX NAME)

L28 ANSWER 2 OF 16 HCAPLUS COPYRIGHT 2008 ACS on STN

2005:578527 HCAPLUS 143:126601

Effect of vilazodone on 5-HT efflux and re-uptake in the guinea-pig dorsal TI

ΑU Roberts, Claire; Hagan, Jim J.; Bartoszyk, Gerd D.; Kew, James

Psychiatry CEDD, GlaxoSmithKline, Harlow, Essex, CM19 5AW, UK

European Journal of Pharmacology (2005), 517(1-2), 59-63

ODEN: EJPHAZ; ISSN: 0014-2999 Elsevier B.V.

Journal

English

The effect of vilazodone, a putative selective serotonin re-uptake inhibitor (SSRI) with 5-HT (5-hydroxytryptamine) 1A receptor partial agonist activity, was investigated on 5-HT efflux and 5-HT re-uptake half life in the guinea-pig dorsal raphe nucleus, using in vitro fast cyclic voltammetry. The SSRI, fluoxetine, significantly increased  $5-\mathrm{HT}$  efflux. In contrast, vilazodone had no effect on 5-HT efflux at 100 nM but significantly decreased 5-HT efflux at 1  $\mu$ M. Co-perfusion of 8-OH-DPAT ( $\pm$  8-hydroxy-2-(di-n-propylamino)tetralin) with fluoxetine significantly attenuated the fluoxetine-induced increase in 5-HT efflux. Co-perfusion of WAY 100635 with vilazodone did not attenuate the effect of vilazodone alone. In addition, the re-uptake half life for 5-HT was significantly increased by both fluoxetine and vilazodone. In conclusion, we have demonstrated that vilazodone (100 nM. 1 μM). in the guinea-pig dorsal raphe nucleus, blocks the serotonin transporter but does not display 5-HT1A receptor agonism.

163521-12-8, Vilazodone RL: PAC (Pharmacological activity); BIOL (Biological study) (effect of vilazodone on 5-HT efflux and re-uptake in the guinea-pig dorsal raphe nucleus) 163521-12-8 HCAPLUS

2-Benzofurancarboxamide, 5-[4-[4-(5-cyano-1H-indol-3-yl)butyl]-1piperazinyl] - (CA INDEX NAME)

THERE ARE 20 CITED REFERENCES AVAILABLE FOR THIS RECORD RE.CNT 20 ALL CITATIONS AVAILABLE IN THE RE FORMAT

L28 ANSWER 1 OF 16 HCAPLUS COPYRIGHT 2008 ACS on STN (Continued)

THERE ARE 1 CITED REFERENCES AVAILABLE FOR THIS RECORD RE.CNT 1 ALL CITATIONS AVAILABLE IN THE RE FORMAT

L28 ANSWER 3 OF 16 HCAPLUS COPYRIGHT 2008 ACS on STN 2005:184699 HCAPLUS

AN 142:329682

Neurochemical evaluation of the novel 5-HT1A receptor partial agonist/serotonin reuptake inhibitor, vilazodone

Hughes, Zoe A.; Starr, Kathryn R.; Langmead, Christopher J.; Hill, Matthew; Bartoszyk, Gerd D.; Hagan, James J.; Middlemiss, Derek N.: Dawson. Lee A. Psychiatry CEDD, Glaxo Smith Kline, Neuropharmacology Research, Essex,

European Journal of Pharmacology (2005), 510(1-2), 49-57

CODEN: EJPHAZ; ISSN: 0014-2999

PB Elsevier B.V. DT Journal

English

Vilazodone has been reported to be an inhibitor of 5-hydroxytryptamine (5-HT) reuptake and a partial agonist at 5-HT1A receptors. Using [355]GTP $\gamma$ S binding in rat hippocampal tissue, vilazodone was demonstrated to have an intrinsic activity comparable to the 5-HT1A receptor agonist 8-hydroxy-2-(di-n-propylamino)tetralin (8-OH-DPAT). Vilazodone (1-10 mg/kg p.o.) dose-dependently displaced in vivo [3H]DASB (N, N-dimethyl-2-(2-amino-4-cyanophenylthio)benzylamine) binding from rat cortex and hippocampus, indicating that vilazodone occupies 5-HT transporters in vivo. Using in vivo microdialysis, vilazodone (10 mg/kg p.o.) was demonstrated to cause a 2-fold increase in extracellular 5-HT but no change in noradrenaline or dopamine levels in frontal cortex of freely moving rats. In contrast, administration of 8-OH-DPAT (0.3 mg/kg s.c.), either alone or in combination with a serotonin specific reuptake inhibitor (SSRI; paroxetine, 3 mg/kg p.o.), produced no increase in cortical 5-HT while increasing noradrenaline and dopamine 2 and 4 fold, resp. A 2-fold increase in extracellular 5-HT levels (but no change in noradrenaline or dopamine levels) was observed after combination of the 5-HT1A receptor antagonist, N-[2-[4-(2-methoxyphenyl)-1-piperazinyl]=thyl]-N-(pyridinyl)cyclohexanecarboxamide (WAY-100635; 0.3 mg/kg s.c.) and paroxetine (3 mg/kg p.o.). In summary, vilazodone behaved as a high efficacy partial agonist at the rat hippocampal 5-HT1A receptors in vitro and occupied  $5-\mathrm{HT}$  transporters in vivo. In vivo vilazodone induced a selective increase in extracellular levels of 5-HT in the rat frontal cortex. This profile was similar to that seen with a 5-HT1A receptor antagonist plus an SSRI but in contrast to 8-OH-DPAT either alone or in combination with paroxetine. 163521-12-8, Vilazodone

RL: DMA (Drug mechanism of action); PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses) (neurochem. evaluation of novel 5-HT1A receptor partial agonist and serotonin reuptake inhibitor vilazodone)

163521-12-8 HCAPLUS 2-Benzofurancarboxamide, 5-[4-[4-(5-cyano-1H-indol-3-yl)butyl]-1piperazinyl) - (CA INDEX NAME)

THERE ARE 41 CITED REFERENCES AVAILABLE FOR THIS RECORD RE.CNT 41 ALL CITATIONS AVAILABLE IN THE RE FORMAT

L28 ANSWER 4 OF 16 HCAPLUS COPYRIGHT 2008 ACS on STN

2004:1154699 HCAPLUS

142:93856 Preparation of indolylbutylpiperazinylbenzofurancarboxamides as serotonin receptor ligands and/or serotonin reuptake inhibitors ΤI

Heinrich, Timo; Boettcher, Henning; Schiemann, Kai; Hoelzemann, Guenter; Van Amsterdam, Christoph; Bartoszyk,

Gerd; Leibrock, Joachim; Seyfried, Christoph Merck Patent GmbH, Germany

PCT Int. Appl., 45 pp. CODEN: PIXXD2

Patent

LA	German																		
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	W:	ΑE,	AG,	AL,	AM,	AT,	ΑU,	ΑZ,	BA,	BB,	ВG,	BR,	BW,	BY,	ΒZ,	CA,	CH,		
		CN,	CO,	CR,	CU,	CZ,	DE,	DK,	DM,	DZ,	EC,	EE,	EG,	ES,	FΙ,	GB,	GD,		
		GΕ,	GH,	GM,	HR,	ΗU,	ID,	ΙL,	IN,	IS,	JP,	KE,	KG,	ΚP,	KR,	ΚZ,	LC,		
		LK,	LR,	LS,	LT,	LU,	LV,	MA,	MD,	MG,	MK,	MN,	MW,	MX,	ΜZ,	ΝA,	ΝI,		
		NO,	ΝZ,	OM,	PG,	PH,	PL,	PT,	RO,	RU,	SC,	SD,	SE,	SG,	SK,	SL,	SY,		
		ΤJ,	TM,	TN,	TR,	TT,	ΤZ,	UA,	UG,	υs,	UΖ,	VC,	VN,	YU,	ZA,	ZM,	ZW		
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					BF,	ВJ,	CF,	CG,	CI,	CM,	GΑ,	GN,	GQ,	GW,	ML,	MR,	ΝE,		
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	к:						ES,		,							MC,	PI,		
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	BR2004011533						2006			2004. 2006.					_				
	JP2006527707 MX2005PA13538																		
	US2007099933						2007		2005MX-PA13538 2005US-0560734										
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os	MARPAT		**		_004														
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$$R^{1} = \begin{bmatrix} (CH_{2})_{m} - N \\ N \end{bmatrix} \times - (CH_{2})_{n} = \begin{bmatrix} (CH_{2})_{n} \\ N \end{bmatrix}$$

Title compds. [I; X = N, CH; R1-R3 = OH, OA, cyano, halo, COR4, CH2R4; R4 = OH, OA, NH2, NHB, NB2; Q = CH2, CO, CH; A, B = alkyl, alkoxy, alkenyl, alkoxyalkyl; m = 2-6; n = 0-4; dotted line = optional double bond), were prepared Thus, 5-[4-[4-(5-cyano-3-indolyl)butyl]-1-piperazinyl]benzofuran-2-carboxamide in Me2SO was treated dropwise with concentrate HCl under ice cooling followed by stirring for 10 h to give 5-[4-(5-cyano-2-oxo-2,3-dihydro-byand-2-oxo-2-oxo-2,3-dihydro-byand-2-oxo-2-oxo-2,3-dihydro-byand-2-oxo- ${\tt 1H-indol-3-yl)} \ {\tt butyl]-l-piperazinyl]} \ {\tt benzofuran-2-carboxamide} \ \ {\tt as} \ \ {\tt the}$ dihydrochloride. The latter showed 5-HTlA receptor binding activity with IC50 = 1.7 nM and serotonin reuptake inhibitor activity with IC50 = 2.9 nM. I are useful as anxiolytics, antidepressants, neuroleptics, antihypertensives and/or for pos. influencing obsessive-compulsive behavior, sleeping disorders, tardive dyskinesia, learning disorders, age-related memory defects, eating disorders such as bulimia, and/or

Ι

sexual dysfunction. 714950-70-6P 816438-30-9P 816438-33-2P

L28 ANSWER 4 OF 16 HCAPLUS COPYRIGHT 2008 ACS on STN (Continued)

816438-37-6 HCAPLUS

2-Benzofurancarboxamide, 5-[4-[4-(5-fluoro-2,3-dihydro-2-oxo-1H-indol-3yl)butyl]-1-piperazinyl]-, dihydrochloride (9CI) (CA INDEX NAME)

$$\begin{array}{c|c} & & & & \\ & & \\ & & & \\ & & & \\ & & \\ & & & \\ & & & \\ & & & \\ & & & \\ & & & \\ & & & \\ & & & \\$$

816438-39-8 HCAPLUS 2-Benzofurancarboxamide, 5-[4-[4-(5-cyano-6-hydroxy-1H-indol-3-yl)butyl]-1piperazinyl)-, hydrochloride (9CI) (CA INDEX NAME)

●x HCl

816438-41-2 HCAPLUS

2-Benzofurancarboxamide, 5-[4-[4-(5-cyano-2,3-dihydro-1H-indol-3-yl)butyl]-1-piperazinyl]-, monohydrochloride (9CI) (CA INDEX NAME)

● HCl

163521-12-8 714950-88-6 765935-80-6

RL: RCT (Reactant); RACT (Reactant or reagent)  $(preparation\ of\ indolyl but ylpiperazinyl benzofurancarbox amides\ as\ seroton in$ 

receptor ligands or reuptake inhibitors) 163521-12-8 HCAPLUS

2-Benzofurancarboxamide, 5-[4-[4-(5-cyano-1H-indol-3-yl)butyl]-1-

piperazinyl) - (CA INDEX NAME)

L28 ANSWER 4 OF 16 HCAPLUS COPYRIGHT 2008 ACS on STN 816438-35-4P 816438-37-6P 816438-39-8P (Continued)

816438-41-2P

piperazinyl] - (CA INDEX NAME)

RL: PAC (Pharmacological activity); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES

 $(prepn.\ of\ indolyl but ylpiperazinyl benzofurancarbox \verb|amides| as\ serotonin|$ 

receptor ligands or reuptake inhibitors) 714950-70-6 HCAPLUS 2-Benzofurancarboxamide, 5-[4-[4-(5-cyano-6-hydroxy-1H-indol-3-y1)buty1]-1-

$$\begin{array}{c|c} & & & \\ & & & \\ & & & \\ & & & \\ & & & \\ & & & \\ & & & \\ & & & \\ & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ &$$

816438-30-9 HCAPLUS 2-Benzofurancarboxamide, 5-[4-[4-(5-cyano-2,3-dihydro-1H-indol-3-yl)butyl]-1-piperazinyl)- (CA INDEX NAME)

816438-33-2 HCAPLUS RN

2-Benzofurancarboxamide, 5-[4-[4-(5-cyano-2,3-dihydro-2-oxo-1H-indol-3-yl)butyl]-1-piperazinyl]- (CA INDEX NAME) CN

816438-35-4 HCAPLUS

2-Benzofurancarboxamide, 5-[4-[4-(5-cyano-2,3-dihydro-2-oxo-1H-indol-3yl)butyl]-1-piperazinyl]-, dihydrochloride (9CI) (CA INDEX NAME)

$$\begin{array}{c|c} & & & \\ & & & \\ & & & \\ & & & \\ & & & \\ & & & \\ & & & \\ & & & \\ & & & \\ & & & \\ & & & \\ & & & \\ & & & \\ & & & \\ & & \\ & & & \\ & &$$

●2 HCl

L28 ANSWER 4 OF 16 HCAPLUS COPYRIGHT 2008 ACS on STN (Continued)

714950-88-6 HCAPLUS 2-Benzofurancarboxamide, 5-[4-[4-[5-cyano-6-[(methylsulfonyl)oxy]-lH-indol-3-yl]butyl]-1-piperazinyl]- (CA INDEX NAME)

$$\begin{array}{c|c} & & & \\ & & & \\ & & & \\ & & & \\ & & & \\ & & & \\ & & & \\ & & & \\$$

RN 765935-80-6 HCAPLUS

2-Benzofurancarboxamide, 5-[4-[4-(5-fluoro-1H-indol-3-yl)butyl]-1-piperazinyl]- (CA INDEX NAME) CN

THERE ARE 6 CITED REFERENCES AVAILABLE FOR THIS RECORD RE.CNT 6 ALL CITATIONS AVAILABLE IN THE RE FORMAT

L28 ANSWER 5 OF 16 HCAPLUS COPYRIGHT 2008 ACS on STN

AN 2004:1154698 HCAPLUS

DN 142:93855
TI Preparation of indolylbutylpiperazinylbenzofurancarboxamides as serotonin
reuptake inhibitors and/or serotonin receptor ligands.

reuptake innibitors and/or serotonin receptor ligands.

N Heinrich, Timo; Boettcher, Henning; Schiemann, Kai;

Hoolzemann, Guenter: Van Amsterdam, Christoph: Bartoszyk

Hoelzemann, Guenter; Van Amsterdam, Christoph; Bartoszyk, Gerd; Leibrock, Joachim; Seyfried, Christoph

PA Merck Patent GmbH, Germany; Van Amsterdam, Christoph

SO PCT Int. Appl., 42 pp. CODEN: PIXXD2

DT Patent

LA	German CNT 1																	
	PATENT				KIN					APPL						ATE		
PI	WO20041							 1229								0040	524	
	W:	ΑE,	AG,	AL,	AM,	ΑT,	ΑU,	ΑZ,	BA,	BB,	ВG,	BR,	BW,	BY,	ΒZ,	CA,	CH,	
		CN,	CO,	CR,	CU,	CZ,	DE,	DK,	DM,	DZ,	EC,	EE,	EG,	ES,	FΙ,	GB,	GD,	
		GE,	GH,	GM,	HR,	ΗU,	ID,	ΙL,	IN,	IS,	JP,	ΚE,	KG,	ΚP,	KR,	ΚZ,	LC,	
		LK,	LR,	LS,	LT,	LU,	LV,	MA,	MD,	MG,	MK,	MN,	MW,	MX,	MZ,	ΝA,	NI,	
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		ΤJ,	TM,	TN,	TR,	TT,	TZ,	UΑ,	ŪG,	US,	UZ,	VC,	VN,	YU,	ZA,	ZM,	ZW	
	RW:	BW,	GH,	GM,	ΚE,	LS,	MW,	MZ,	NΑ,	SD,	SL,	SZ,	TZ,	ŪG,	ZM,	ZW,	AM,	
		ΑZ,	BY,	KG,	ΚZ,	MD,	RU,	ΤJ,	TM,	AT,	BE,	ВG,	CH,	CY,	CZ,	DE,	DK,	
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	DE103				A1 20050105 A1 20041229													
	AU20042									2004.			_					
	CA25							1229					20040524					
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	R:							FR,								MC,	PT,	
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	20011110 22 00010				W		2004	0524										
os	MARPAT	142:	9385	5														

$$R^{1} \xrightarrow{N_{R^{2}}} X - (CH_{2})_{n} \xrightarrow{R^{3}}$$

Title compds. [I; X = N, CH; R1, R3 = H, OH, OA, cyano, halo, COR4, CH2R4; R2 = H, (halo-substituted) alkyl, alkylaryl, alkylheteroaryl, heteroaryl; R4 = OH, OA, NH2, NHB, NB2; A, B = alkyl; m = 2-6; n = 0-4], were prepared Thus, 3-(4-chlorobutyl)-1H-indole-5-carbonitrile in THF was added to NaH in THF followed by stirring for 30 min., addition of MeI in THF, and stirring for 30 min. at room temperature to give N-methylated product, which was heated with 5-(piperazin-1-yl)benzofuran-2-carboxamide and Et3N in N-methylpyrrolidine at 120° for 4 h to give 5-[4-[4-(5-cyano-1-methyl-1H-indol-3-yl)butyl]piperazin-1-yl]benzofuran-2-carboxamide. The latter showed serotonin reuptake inhibitory activity with IC50 = 2.6 nM. I are useful as anxiolytics, antidepressants, neuroleptics, antihypertensives, and/or for pos. influencing obsessive compulsive disorders, sleep disorders, tardive dyskinesia, learning disorders, geriatric memory loss, bulimia, irritable bowel syndrome, and sexual

L28 ANSWER 5 OF 16 HCAPLUS COPYRIGHT 2008 ACS on STN (Continued)
CN 2-Benzofurancarboxamide, 5-[4-[4-(5-cyano-1-propyl-lH-indol-3-yl)butyl]-1piperazinyl]- (CA INDEX NAME)

RN 816429-19-3 HCAPLUS
CN 2-Benzofurancarboxami

CN 2-Benzofurancarboxamide, 5-[4-[4-[5-cyano-1-(2-pyridinylmethyl)-1H-indol-3-yl]butyl]-1-piperazinyl]- (CA INDEX NAME)

RN 816429-20-6 HCAPLUS

CN 2-Benzofurancarboxamide, 5-[4-[4-[5-cyano-1-(2-phenylethyl)-1H-indol-3-yl]butyl]-1-piperazinyl]- (CA INDEX NAME)

$$\begin{array}{c|c} & & & \\ & & & \\ & & & \\ & & & \\ & & & \\ & & & \\ & & & \\ & & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ &$$

IT 816429-21-7P

RL: PAC (Pharmacological activity); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)

(preparation of indolylbutylpiperazinylbenzofurancarboxamides as serotonin reuptake inhibitors and/or serotonin receptor ligands)

reuptake inhibitor: RN 816429-21-7 HCAPLUS

2-Benzofurancarboxamide, 5-[4-[4-(5-cyano-1-methyl-1H-indol-3-yl)butyl]-1-piperazinyl]-, dihydrochloride (9CI) (CA INDEX NAME)

●2 HCl

RE.CNT 6 THERE ARE 6 CITED REFERENCES AVAILABLE FOR THIS RECORD ALL CITATIONS AVAILABLE IN THE RE FORMAT

L28 ANSWER 5 OF 16 HCAPLUS COPYRIGHT 2008 ACS on STN (Continued)

dysfunction. IT 816429-14-8P 816429-15-9P 816429-16-0P 816429-17-1P 816429-18-2P 816429-19-3P

816429-20-6P
RL: PAC (Pharmacological activity): SPN (Synthetic p

RL: PAC (Pharmacological activity); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)

(claimed compound; preparation of indolylbutylpiperazinylbenzofurancarboxamide s as serotonin reuptake inhibitors and/or serotonin receptor ligands)

RN 816429-14-8 HCAPLUS
CN 2-Benzofurancarboxamide, 5-[4-[4-(5-cyano-1-methyl-1H-indol-3-yl)butyl]-1piperazinyl]- (CA INDEX NAME)

RN 816429-15-9 HCAPLUS
CN 2-Benzofurancarboxamide, 5-[4-[4-(5-cyano-1-ethyl-1H-indol-3-yl)butyl]-1piperazinyl]- (CA INDEX NAME)

$$H_2N-C$$

RN 816429-16-0 HCAPLUS

CN 2-Benzofurancarboxamide, S-{4-{4-{5-cyano-1-(1-methylethyl)-1H-indol-3-yl}butyl}-1-piperazinyl}- (CA INDEX NAME)

RN 816429-17-1 HCAPLUS
CN 2-Benzofurancarboxamide, 5-[4-[4-[5-cyano-1-(phenylmethyl)-1H-indol-3-yl]butyl]-1-piperazinyl]- (CA INDEX NAME)

RN 816429-18-2 HCAPLUS

L28 ANSWER 5 OF 16 HCAPLUS COPYRIGHT 2008 ACS on STN (Continued)

L28 ANSWER 6 OF 16 HCAPLUS COPYRIGHT 2008 ACS on STN

2004:892421 HCAPLUS

141:360593 Effects of systemic injections of Vilazodone, a selective serotonin ΤI reuptake inhibitor and serotonin 1A receptor agonist, on anxiety induced by predator stress in rats

Adamec, Robert; Bartoszyk, Gerd D.; Burton, Paul

Department of Psychology, Memorial University, St. John's, AlB 3X9, Can. European Journal of Pharmacology (2004), 504(1-2), 65-77 CODEN: EJPHAZ; ISSN: 0014-2999

Elsevier B.V.

Journal

English We examined the effect of Vilazodone, a selective serotonin reuptake inhibitor (SSRI) and serotonin 1A (5-HT1A) receptor agonist [Bartoszyk, G.D., Hegenbart, R., Ziegler, H., 1997. EMD 68843, a serotonin reuptake inhibitor with selective presynaptic 5-HT1A receptor agonistic properties. Eur. J. Pharmacol. 322, 147-153], on change in affect following predator stress. Vilazodone and vehicle injection (i.p.) occurred either 10  $\min$ after predator stress (prophylactic testing), or 90 min prior to behavioral testing for the effects of predator stress (therapeutic testing). Predator stress involved unprotected exposure of rats to a domestic cat. Behavioral effects of stress were evaluated with hole board, plus-maze, and acoustic startle tests 1 wk after stress. Predator stress increased anxiety-like behavior in the plus-maze and elevated response to acoustic startle. In prophylactic testing, Vilazodone affected stress potentiation of startle at doses above 5 mg/kg. Vilazodone increased stress elevation of startle at 10 mg/kg. Higher doses of Vilazodone (20 and 40 mg/kg) blocked stress potentiation of startle. In contrast, Vilazodone had no effect on stress potentiation of anxiety in the plus-maze. In therapeutic testing, Vilazodone increased stress elevation of startle at all doses. In contrast, therapeutic Vilazodone had no effect on stress potentiation of anxiety in the plus-maze. Taken together, the data suggest a prophylactic potential for Vilazodone in the treatment of changes in hypervigilance following severe

163521-12-8, Vilazodone RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL

(Biological study); USES (Uses)
(effects of SSRI and serotonin 1A receptor agonist, Vilazodone, on anxiety induced by predator stress in rats)

163521-12-8 HCAPLUS

2-Benzofurancarboxamide, 5-[4-[4-(5-cyano-1H-indol-3-yl)butyl]-1piperazinyl) - (CA INDEX NAME)

THERE ARE 37 CITED REFERENCES AVAILABLE FOR THIS RECORD RE.CNT 37 ALL CITATIONS AVAILABLE IN THE RE FORMAT

L28 ANSWER 7 OF 16 HCAPLUS COPYRIGHT 2008 ACS on STN (Continued)

765935-80-6P

RL: PAC (Pharmacological activity); SPN (Synthetic preparation); BIOL (Biological study); PREP (Preparation)  $(preparation \ of \ \hbox{\tt [[(indolyl)butyl]piperazinyl]} benzo fur ancarbox a mide \ derivative$ 

and study of its activity as 5-HT1A receptor agonist and serotonin re-uptake inhibitor)

765935-80-6 HCAPLUS

2-Benzofurancarboxamide, 5-[4-[4-(5-fluoro-1H-indol-3-yl)butyl]-1piperazinyl)- (CA INDEX NAME)

RE.CNT 49 THERE ARE 49 CITED REFERENCES AVAILABLE FOR THIS RECORD ALL CITATIONS AVAILABLE IN THE RE FORMAT

L28 ANSWER 7 OF 16 HCAPLUS COPYRIGHT 2008 ACS on STN

2004:641081 HCAPLUS

141:314299

Synthesis and Structure-Activity Relationship in a Class of ΤI Indolebutylpiperazines as Dual 5-HT1A Receptor Agonists and Serotonin Reuptake Inhibitors

Heinrich, Timo; Boettcher, Henning; Gericke, Rolf; Bartoszyk, Gerd D.; Anzali, Soheila; Seyfried, Christoph A.; Greiner, Hartmut E.; van Amsterdam, Christoph

Preclinical Pharmaceutical Research, Merck KGaA, Darmstadt, 64293, Germany

Journal of Medicinal Chemistry (2004), 47(19), 4684-4692

CODEN: JMCMAR; ISSN: 0022-2623 American Chemical Society

DT Journal

English

CASREACT 141:314299

Systematic structural modifications of [(indolyl)alkyl](phenyl)piperazines led to improved selectivity and affinity within this class of 5-HT1Areceptor agonists. Introduction of electron-withdrawing groups in position 5 on the indole group raises serotonin transporter affinity, and the cyano group proved to be the best substituent here. 5-Fluoro and 5-cyano substituted indoles show comparable results in in vitro and in vivo tests, and bioisosterism between these substituents was supported by calcn. of the mol. electrostatic potentials and dipole moments. Compds. showing promising in vitro data were further examined in ex vivo (p-chloroamphetamine assay) and in vivo (ultrasonic vocalization) tests. Optimization of the arylpiperazine moiety indicated that the 5-benzofuranyl-2-carboxamide was best suited to increase 5-HT transporter and 5-HT1A receptor affinity and to suppress D2 receptor binding.  $5-[4-[4-(5-Cyano-3-indoly1)buty1]-1-piperaziny1]-2-benzofurancarboxamide (I; vilazodone, EMD 68843) was identified as a highly selective 5-HT1A receptor agonist [GTP<math>\gamma$ S, ED50 = 1.1 nM] with subnanomolar 5-HT1A affinity [IC50 = 0.2 nM] and as a subnanomolar 5-HT re-uptake inhibitor  $[{
m RUI}=0.5~{
m nM}]$  showing a great selectivity to other GPCRs (e.g., D2, IC50 = 666 nM). I is a promising candidate for further investigation in the treatment of mood disorders (no data). 163521-12-8P

RL: PAC (Pharmacological activity); RCT (Reactant); SPN (Synthetic preparation); BIOL (Biological study); PREP (Preparation); RACT (Reactant

(preparation of [[(cyanoindolyl)butyl]piperazinyl]benzofurancarboxamide derivative and study of its activity as 5-HT1A receptor agonist and serotonin re-uptake inhibitor) 163521-12-8 HCAPLUS

2-Benzofurancarboxamide, 5-[4-[4-(5-cyano-1H-indol-3-yl)butyl]-1piperazinyl] - (CA INDEX NAME)

L28 ANSWER 8 OF 16 HCAPLUS COPYRIGHT 2008 ACS on STN

2004:346288 HCAPLUS AN 141:88987

A new synthesis of indole 5-carboxylic acids and 6-hydroxy-indole-5carboxylic acids in the preparation of an o-hydroxylated metabolite of

vilazodone Heinrich, Timo; Boettcher, Henning

Preclinical Pharmaceutical Research, Merck KGaA, Darmstadt, 64293, Germany

Bioorganic & Medicinal Chemistry Letters (2004), 14(10), 2681-2684 CODEN: BMCLE8; ISSN: 0960-894X

Elsevier Science B.V. DT

Journal LA English

CASREACT 141:88987 os

A major metabolite of the potential antidepressant vilazodone formed in rat, dog, monkey and human liver microsomes is 5-[4-(4-(5-cyano-6-hydroxy-1H-indol-3-yl)butyl]-1-piperazinyl]-2-benzofurancarboxamide (I). For the construction of the salicyl-like substituted indole a synthesis of carmoxirole was adapted using Japp-Klingemann-type Fischer-indole synthesis protocols. The reaction of 4-amino-2-hydroxybenzoic acid with 2-oxocyclohexanecarboxylic acid Et ester gave 4-[[5-carboxy-1-(ethoxycarbonyl)pentylidene)hydrazino)-2-hydroxybenzoic acid (II). The Japp-Klingemann reaction of II gave a 6:1 mixture of 5-carboxy-6-hydroxy-2-(methoxycarbonyl)-1H-indole-3-butanoic acid (III) and its 4-hydroxy isomer, 5-carboxy-4-hydroxy-2-(methoxycarbonyl)-lH-indole-3-butanoic acid. Functional group interconversion of carboxylic acid via carboxamide into cyanide was performed for III. The synthesis of carmoxirole [i.e., 3-[4-(3,6-dihydro-4-phenyl-1(2H)-pyridinyl)butyl]-1H-indole-5-carboxylic acid) was also reported using this Japp-Klingemann-type Fischer-indole synthesis protocol. 714950-88-6P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT

(Reactant or reagent) (preparation of vilazodone metabolite via Japp-Klingemann-type Fischer indole synthesis of 2,5-dicarboxy-6-hydroxy-1H-indole-3-butanoate from [[carboxy(ethoxycarbonyl)pentylidene]hydrazino](hydroxy)benzoate intermediate)

714950-88-6 HCAPLUS

2-Benzofurancarboxamide, 5-[4-[4-[5-cyano-6-[(methylsulfonyl)oxy]-1H-indol-3-yl]butyl]-1-piperazinyl)- (CA INDEX NAME)

L28 ANSWER 8 OF 16 HCAPLUS COPYRIGHT 2008 ACS on STN (Continued)

IT 163521-12-8DP, Vilazodone, metabolites

RL: SPN (Synthetic preparation); PREP (Preparation)

(preparation of vilazodone metabolite via Japp-Klingemann-type Fischer indole synthesis of 2,5-dicarboxy-6-hydroxy-1H-indole-3-butanoate from [[carboxy(ethoxycarbonyl)pentylidene]hydrazino](hydroxy)benzoate intermediate)

intermediate) RN 163521-12-8 HCAPLUS

CN 2-Benzofurancarboxamide, 5-[4-[4-(5-cyano-1H-indol-3-yl)butyl]-1piperazinyl]- (CA INDEX NAME)

IT 714950-70-6P, 5-[4-[4-(5-Cyano-6-hydroxy-lH-indol-3-yl)butyl]-l-

piperazinyl)-2-benzofurancarboxamide
RL: SPN (Synthetic preparation); PREP (Preparation)

(vilazodone metabolite; preparation of vilazodone metabolite via Japp-Klingemann-type Fischer indole synthesis of 2,5-dicarboxy-6-hydroxy-IH-indole-3-butanoate from [(carboxy(ethoxycarbonyl)pentylidene]hydrazino](hydroxy)benzoate intermediate)

714950-70-6 HCAPLUS
2-Benzofurancarboxamide, 5-[4-[4-(5-cyano-6-hydroxy-lH-indol-3-yl)butyl]-lpiperazinyl]- (CA INDEX NAME)

RE.CNT 25 THERE ARE 25 CITED REFERENCES AVAILABLE FOR THIS RECORD ALL CITATIONS AVAILABLE IN THE RE FORMAT

L28 ANSWER 9 OF 16 HCAPLUS COPYRIGHT 2008 ACS on STN (Continued)

L28 ANSWER 9 OF 16 HCAPLUS COPYRIGHT 2008 ACS on STN 2002:977808 HCAPLUS 138:44671 Polymorphic forms of 1-'4-(5-cyanoindol-3-yl)butyl-4-(2-ΤI carbamoylbenzofuran-5-yl)piperazine hydrochloride Bathe, Andreas; Helfert, Bernd; Neuenfeld, Steffen; Kniel, Heike; Bartels, Matthias; Rudolph, Susanne; Boettcher, Henning Merck Patent G.m.b.H., Germany PCT Int. Appl., 103 pp. CODEN: PIXXD2 Patent English FAN.CNT 1 PATENT NO. KIND DATE APPLICATION NO DATE W02002102794 A2 20021227 20020605 2002WO-EP06153 WO2002102794 20030220 W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZM, ZW RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG 20021227 CA---2451028 2002CA-2451028 Al 20020605 AU2002320822 Al 20030102 2002AU-0320822 20020605 AU2002320822 20071115 EP---1397357 20040317 2002EP-0754627 20020605 R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR EE-200400019 20040415 2004EE-0000019 20020605 HU2004000236 A2 20040628 2004HU-0000236 20020605 CN---1516699 20040728 2002CN-0812226 20020605 BR2002010495 2002BR-0010495 20040817 20020605 JP2004534803 20041118 2003JP-0506267 20020605 NZ----530642 20060929 2002NZ-0530642 20020605 RU---2303598 2004RU-0100824 C2 20070727 20020605 MX2003PA11723 20040319 2003MX-PA11723 20031216 US2004147528 2003US-0481270 Al 20040729 20031219 2004IN-KN00031 IN2004KN00031 20060407 20040109 2004ZA-0000329 ZA2004000329 20050415 20040115 PRAI 2001EP-0113647 20010619 2002WO-EP06153 20020605 The invention relates to new crystalline modifications of the hydrochloride salt of 1-[4-(5-cyanoindol-3-y1)buty1]-4-(2-carbamoyl-benzofuran-5-y1)piperazine, crystalline modification of the dihydrochloride of 1-[4-(5-cyanoindol-3-yl)butyl]-4-(2-carbamoylbenzofuran-5-yl)piperazine and amorphous 1-[4-(5-cyanoindol-3-y1)buty1]-4-(2-carbamoy1-benzofuran-5-cyanoindol-3-y1)buty1]-4-(3-cyanoindolyl)piperazine-HCl (I) which are suitable in particular for the preparation of solid pharmaceuticals for the treatment or prevention of depressive disorders, anxiety disorders, bipolar disorders, mania, dementia, substance-related disorders, sexual dysfunctions, eating disorders, obesity, fibromyalgia, sleeping disorders, psychiatric disorders, cerebral infarction, tension, for the therapy of side-effects in the treatment of  ${\tt hypogonadism, secondary \ amenorrhea, \ premenstrual \ syndrome \ and \ undesired}$ puerperal lactation. Thus, to a solution of 1-[4-(5-cyanoindol-3-y1)buty1]-4-(2-carbamoylbenzofuran-5-yl)piperazine in THF was added HCl. The I hydrate obtained was dried at 85-90° to give I which was characterized by spectral properties.

RL: RCT (Reactant); THU (Therapeutic use); BIOL (Biological study); RACT (Reactant or reagent); USES (Uses) (preparation of polymorphic forms of (cyanoindolyl)butylcarbamoylbenzofurany lpiperazine hydrochloride)

RN 163521-12-8 HCAPLUS

CN 2-Benzofurancarboxamide, 5-[4-[4-(5-cyano-1H-indol-3-yl)butyl]-1-piperazinyl]- (CA INDEX NAME)

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L28 ANSWER 10 OF 16 HCAPLUS COPYRIGHT 2008 ACS on STN
    2002:391537 HCAPLUS
AN
     136:380124
     Veterinary use of combined 5-HTla agonists and serotonin reuptake
     inhibitors for the treatment of traumatic and compulsive disorders
     associated with behavioral stressors
     Bartoszyk, Gerd
     Merck Patent Gmbh. Germany
so
     PCT Int. Appl., 20 pp.
DT Patent
   English
FAN.CNT 1
     PATENT NO.
                        KIND DATE
                                            APPLICATION NO.
                                                                   DATE
PI W02002040024
                         Al
                               20020523
                                            2001WO-EP11952
         W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN,
             CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH,
             GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR,
             LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PH, PL,
             PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG,
             US, UZ, VN, YU, ZA, ZW
         RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY,
             DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF,
             BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG
                              20020523
                                                                   20011016
     CA---2428511
                                           2001CA-2428511
                         Al
                                            2002AU-0015027
     AU-200215027
                                20020527
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     EP---1333832
                                20030813
                                            2001EP-0983555
                          Al
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     EP---1333832
                          Bl
                                20071128
         R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,
             IE, SI, LT, LV, FI, RO, MK, CY, AL, TR
     BR2001015296
                                            2001BR-0015296
                                                                   20011016
                                20030902
                          A2
     HU2003002751
                                20031128
                                            2003HU-0002751
                                                                   20011016
     HU2003002751
                          А3
                                20070628
     JP2004513924
                                20040513
                                            2002JP-0542397
                                                                   20011016
     RU---2288719
                                            2003RU-0115431
                                20061210
                                                                   20011016
     MX2003PA04166
                                20030922
                                            2003MX-PA04166
                                                                   20030512
     NO2003002148
                                20030513
                                            2003NO-0002148
                                                                   20030513
                                            2003US-0416573
     US2004082594
                                                                   20030513
                          Al
                                20040429
                                20050204
                                            2003IN-KN00745
     IN2003KN00745
                                                                   20030610
     ZA2003004606
                                            2003ZA-0004606
                                20040913
                                                                   20030612
     HK---1060697
                                20060707
                                            2004HK-0103692
                                                                   20040525
PRAI 2000EP-0124815
                                20001114
     2001WO-EP11952
                                20011016
     The invention discloses the use of combined selective serotonin (5-HT)
     reuptake inhibitors (SSRIs) and 5-HT1A receptor agonists, in particular
     1-[4-(5-cyanoindol-3-yl)butyl]-4-(2-carbamoyl-benzofuran-5-yl)-piperazine,
     or a physiol. acceptable salt thereof, or 3-[4-(4-(4-cyano-phenyl)-
     piperazin-l-yl)-butyl)-lH-indole-5-carbonitrile, or a physiol. acceptable
     salt thereof, for the manufacture of a medicament for use in veterinary
     medicine for the treatment or prophylaxis of self-directed traumatic
     disorders associated with behavioral stressors and compulsive disorders
     associated with behavioral stressors.
     RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL
     (Biological study); USES (Uses)
        (veterinary use of combined 5-HTla agonists and serotonin reuptake
        inhibitors for treatment of traumatic and compulsive disorders associated
        with behavioral stressors)
     2-Benzofurancarboxamide, 5-[4-[4-(5-cyano-1H-indol-3-yl)butyl]-1-
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piperazinyl) - (CA INDEX NAME)

L28 ANSWER 10 OF 16 HCAPLUS COPYRIGHT 2008 ACS on SIN (Continued)

THERE ARE 7 CITED REFERENCES AVAILABLE FOR THIS RECORD RE.CNT 7 ALL CITATIONS AVAILABLE IN THE RE FORMAT

L28 ANSWER 11 OF 16 HCAPLUS COPYRIGHT 2008 ACS on STN (Continued) (Biological study); USES (Uses) (combined 5-HTla agonists and selective serotonin reuptake inhibitors as analgesics)

163521-12-8 HCAPLUS 2-Benzofurancarboxamide, 5-[4-[4-(5-cyano-1H-indol-3-yl)butyl]-1-

piperazinyl) - (CA INDEX NAME)

RE.CNT 13 THERE ARE 13 CITED REFERENCES AVAILABLE FOR THIS RECORD ALL CITATIONS AVAILABLE IN THE RE FORMAT

L28 ANSWER 11 OF 16 HCAPLUS COPYRIGHT 2008 ACS on STN 2002:391504 HCAPLUS DN 136:380120 Novel use of combined 5-HTla agonists and selective serotonin reuptake ΤI inhibitors Bartoszyk, Gerd; Sedman, Ewen Merck Patent Gmbh, Germany SO PCT Int. Appl., 34 pp. CODEN: PIXXD2 DT Patent English FAN.CNT 1 PATENT NO. KIND DATE APPLICATION NO. DATE WO2002039989 A1 20020523 2001WO-EP12686 20011102 W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG CA---2429216 A1 20020523 2001CA-2429216 AU-200221803 20020527 2002AU-0021803 20011102 2001EP-0996368 EP---1335716 A1 20030820 20011102 R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR BR2001015434 20031007 2001BR-0015434 20011102 2002JP-0542364 JP2004513916 20040513 20011102 HU2004000504 20040628 2004HU-0000504 20011102 HU2004000504 A3 20060228 CN---1541093 20041027 2001CN-0819111 20011102 В2 2002AU-0221803 AU2002221803 20070215 20011102 RU---2302243 2003RU-0116893 20070710 20011102 MX2003PA04341 20030819 2003MX-PA04341 20030516 NO2003002248 20030519 2003NO-0002248 20030519 US2004014771 Al 20040122 2003US-0432047 20030519 IN2003KN00778 20060317 2003IN-KN00778 20030613 2003ZA-0004757 ZA2003004757 20040920 20030619 PRAI 2000EP-0125409 20001120 2001WO-EP12686 20011102

$$\begin{array}{c} \text{NC} \\ \text{NC} \\ \text{CH}_2 \\ \text{C$$

AB The present invention relates to the use of compds. being combined selective serotonin (5-HT) reuptake inhibitors (SSRIs) and 5-HTlA receptor agonists, in particular of I or a physiol. acceptable salt thereof or 3-[4-[4-(4-cyanophenyl)piperazin-1-yl]butyl]-1H-indole-5-carbonitrile or a physiol. acceptable salt thereof, for the manufacture of a medicament for the treatment of chronic pain disorders or in treating other conditions where there is hyper-sensitization to painful signals, hyperalgesia, allodynia, enhanced pain perception, and enhanced memory of pain, as well as for the treatment of irritable bowel syndrome (IBS). I-HCl reduced writhing in mice at 30 mg/kg orally by 82% in pain-relieving acute analgetic property

163521-12-8 RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL

L28 ANSWER 12 OF 16 HCAPLUS COPYRIGHT 2008 ACS on STN

AN 2001:454453 HCAPLUS 135:282632

Studies comparing in vivo:in vitro metabolism of three pharmaceutical compounds in rats, dogs, monkeys, and humans [by] using cryopreserved hepatocytes, microsomes, and collagen-gel-immobilized hepatocyte cultures

Hewitt, Nicola J.; Buhring, Karl-Uhlrich; Dasenbrock, Johannes; Haunschild, Jutta; Ladstetter, Bernhard; Utesch, Dietmar Institute of Toxicology, Merck KGaA, Darmstadt, D-64271, Germany

Drug Metabolism and Disposition (2001), 29(7), 1042-1050

CODEN: DMDSAI; ISSN: 0090-9556

American Society for Pharmacology and Experimental Therapeutics Journal

English

The in vivo metabolism of EMD68843, EMD96785, and EMD128130 was compared in fresh and cryopreserved hepatocyte (CPH) suspensions and microsomes from rat, dog, monkey, and human livers and in fresh human and rat hepatocyte collagen-gel-immobilized cultures (GICs). Half of the major in vivo metabolites were produced by phase 1 metabolism (hydroxylation, oxidation, hydrolysis, N-dealkylation) and half by phase 2 metabolism (mostly glucuronidation but also sulfation and glycine conjugation). The identities and percentages of phase 1 and 2 metabolites of each compound produced in hepatocytes compared well with those in each species in vivo. Glucuronidation was more extensive in GICs than in CPHs. In contrast, CPHs, but not GICs, produced sulfate metabolites. Microsomes (supplemented with NADPH only) produced most of the phase 1 but no phase 2  $\,$ metabolites. Metabolism by CPHs was the same as that by fresh hepatocyte suspensions. Discrete species differences in metabolism were detected in CPHs and microsomes. The cytochrome P 450 and glucuronosyl S-transferase contents of CPHs did not account for the species differences in the percentage of phase 1 and 2 metabolites or the rate of disappearance of the parent compds. in these cells. These data show a good correlation between major metabolites formed in vivo and in vitro. CPHs and GICs, unlike microsomes, carried out sequential phase 1 and 2 metabolism Each in vitro system has its own advantages; however, for short-term metabolism studies CPHs may be more useful, since they are readily available, easier and quicker to prepare than GICs, and have more comprehensive enzyme systems than microsomes.

163521-12-8, EMD 68843 RL: BPR (Biological process); BSU (Biological study, unclassified); BIOL

(Biological study); PROC (Process) (in vivo vs. in vitro metabolism of EMD68843, EMD 96785, and EMD 128130 in rats, dogs, monkeys, and humans by cryopreserved hepatocytes,

microsomes, and collagen-gel-immobilized hepatocyte cultures) 163521-12-8 HCAPLUS

2-Benzofurancarboxamide, 5-[4-[4-(5-cyano-1H-indol-3-yl)butyl]-1piperazinyl] - (CA INDEX NAME)

RE.CNT 29 THERE ARE 29 CITED REFERENCES AVAILABLE FOR THIS RECORD ALL CITATIONS AVAILABLE IN THE RE FORMAT

L28 ANSWER 13 OF 16 HCAPLUS COPYRIGHT 2008 ACS on STN

2001:164199 HCAPLUS

DN 135:441 ΤI Systemic EMD 68843 injections reduce anxiety in the shock-probe, but not

the plus-maze test Treit, D.; Degroot, A.; Kashluba, S.; Bartoszyk, G. D.

Department of Psychology, University of Alberta, Edmonton, AB, T6G 2E9, CS

European Journal of Pharmacology (2001), 414(2/3), 245-248 CODEN: EJPHAZ; ISSN: 0014-2999

Elsevier Science B.V.

Journal English

Selective serotonin (5-hydroxytryptamine; 5-HT) reuptake inhibitors and 5-HT1A receptor agonists are believed to reduce anxiety. In the present study we examined the effects of injections of  $5-\{4-\{4-(5-cyano-3-indoly1)-cyano-3-indoly1\}$ buty1|-1-piperaziny1}-benzofuran-2-carboxamide hydrochloride (EMD 68843), a 5-HT1A receptor agonist and selective 5-HT reuptake inhibitor, in two animal models of anxiety, plus-maze and shock-probe. Rats received i.p. mindel models of anxiety, plus-maze and shock-probe. Rats received 1.p. injections of vehicle, diazepam (2.5 mg/kg), or EMD 68843 (10, 20, or 40 mg/kg) 1 h prior to testing. Diazepam at the single dose tested and EMD 68843 dose-dependently (significantly at 20 and 40 mg/kg) reduced burying in shock-probe. However, only diazepam significantly increased open arm exploration in the plus-maze. Therefore, EMD 68843 has task specific anxiolytic properties.

163521-12-8, EMD 68843 RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES

(systemic EMD 68843 injections reduce anxiety in shock-probe, but not plus-maze test)

163521-12-8 HCAPLUS

2-Benzofurancarboxamide, S-[4-[4-(5-cyano-lH-indol-3-yl)butyl]-1-piperazinyl]- (CA INDEX NAME)

(CH<sub>2</sub>)<sub>4</sub>

RE.CNT 23 THERE ARE 23 CITED REFERENCES AVAILABLE FOR THIS RECORD ALL CITATIONS AVAILABLE IN THE RE FORMAT

L28 ANSWER 14 OF 16 HCAPLUS COPYRIGHT 2008 ACS on STN (Continued) 1-[4-(5-Cyanoindol-3-yl)butyl]-4-(2-carbamoyl-benzofuran-5-yl)-piperazine (I) or a physiol. acceptable salt thereof is used for the manufacture of a medicament for the treatment of sub-type anxiety disorders chosen from the sub-types panic disorder with or without agoraphobia, obsessive-compulsive spectrum disorders, social phobia, post-traumatic stress disorder, acute stress indication or generalized-anxiety disorder, bipolar disorders, mania, dementia, substance-related disorders, sexual dysfunctions, eating disorders, obesity, anorexia and fibromyalgia. A preferred salt is I hydrochloride. For example, a mixture containing 1 kg I or a physiol. acceptable salt, 4 kg lactose, 1.2 kg potato starch, 0.2 kg talc, and 0.1  $kg\ \text{Mg}$  stearate was tableted in the customary manner in such a way that each tablet comprises 10 mg of active ingredient.

163521-12-8 RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES

(compns. of cyanoindolylbutyl(carbamoylbenzofuranyl)-piperazine and its salts for treatment of anxiety and related disorders) 163521-12-8 HCAPLUS

2-Benzofurancarboxamide, 5-[4-[4-(5-cyano-1H-indol-3-yl)butyl]-1piperazinyl] - (CA INDEX NAME)

L28 ANSWER 14 OF 16 HCAPLUS COPYRIGHT 2008 ACS on STN

2000:861478 HCAPLUS 134:32976

Novel use of cyanoindolylbutyl(carbamoylbenzofuranyl)-piperazine and its ΤI physiologically acceptable salts for treatment of anxiety and related

Bartoszyk, Gerd; Seyfried, Christoph; Van

Amsterdam, Christoph; Bottcher, Henning; Sedman, Ewen

PA SO	Merck P PCT Int CODEN:	. Ap	pl.,			Gerr	nany		_	,		,						
DT	Patent																	
LA	English																	
	CNT 1																	
I MV.	PATENT					_	DATE			APPL								
PI	WO20000				A2		20001207			20001						516		
	WO20000				A3		2001											
	W:	ΑE,	AL,	AM,	AT,	ΑU,	AZ,	BA,	BB,	BG,	BR,	BY,	CA,	CH,	CN,	CU,	CZ,	
							GB,											
		JP,	ΚE,	KG,	KP,	KR,	KZ,	LC,	LK,	LR,	LS,	LT,	LU,	LV,	MD,	MG,	MK,	
		MN,	MW,	MX,	NO,	NZ,	PL,	PT,	RO,	RU,	SD,	SE,	SG,	SI,	SK,	SL,	ΤJ,	
		TM,	TR,	TT,	UA,	UG,	US,	UΖ,	VN,	YU,	ZA,	ZW						
	RW:	GH,	GM,	ΚE,	LS,	MW,	SD,	SL,	SZ,	TZ,	UG,	ZW,	ΑT,	BE,	CH,	CY,	DE,	
							GR,							SE,	BF,	ВJ,	CF,	
				CM,			. GW,											
	TW5			В		2003			TW 1					19991115				
	CA23			Al		2000			2000						0000			
	EP11				A2		2002			2000	EP-0	9350	31		2	0000	516	
	EP11			Bl		2004			_		_							
	R:						ES,	FR,	GB,	GR,	IT,	LI,	LU,	ΝL,	SE,	MC,	PT,	
	BB00000			LT,	LV,			0.400		2000	DD 0	0300	4.0		^	0000	C 7 /	
	BR20000				A		2002			2000						0000		
	TR-2001				T2		2002			2001						0000		
	CN13 HU20020				A A2		2002								2000051 2000051			
	HU20020				A3		20020828			2002		2	0000	310				
	JP20035				ī		2003			2000	TD_∩	6209	11		2	0000	516	
	AU7				B2		2004			2000.						0000		
	AT2				T		2004			2000.						0000		
	EP14				Āl		2004			2004						0000		
	EP14				B1		2006											
	R:			CH.			ES,		GB.	GR.	IT.	LI.	LU.	NL.	SE.	MC.	PT.	
							RO,				,	,		,	/			
	PT11				T		2004			2000	PT-0	9350	31		2	0000	516	
	RU22	3747	7		C2		2004	1010		2001	RU-0	1333	42		2	0000	516	
	ES22	1934	2		Т3		2004	1201		2000	ES-0	9350	31		2	0000	516	
	US69	0021	2		Bl		2005	0531		2001	US-0	9799	22		2	0000	516	
	CZ2	9562	3		В6		2005	0914		2001	CZ-0	0042	26		2	0000	516	
	CN16	7957	7		Α		2005	1012		CN 2	005-	1005	4417		2	0000	516	
	AT3				T		2006			2004.						0000		
	EP17				A2		2006			2006	EP-0	0172	31		2	0000	516	
	EP17				A3		2007											
	R:						DK,		FI,	FR,	GB,	GR,	ΙE,	IT,	LI,	LU,	MC,	
				SE,			RO,											
	ES22				T3		2007			2004						0000		
	NO20010				A		2001			2001	MO-0	005/	40		2	0011	176	
	NO3				B1		2006			2007		x 7 0 7	70		^	0077	107	
	MX2001P				A		2002			2001						0011		
	ZA20010 IN2001K				A a		2003			2001						0011		
	HK10				A Al		2005			2001						0030		
	US20051				Al		2005			2004						0041		
	NO20060				A		2001			2004						0060		
	NO3				B1		2007			2000.	.,,,_0	0013	02		4	0000	300	
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L28 ANSWER 15 OF 16 HCAPLUS COPYRIGHT 2008 ACS on STN

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A3

1996:689356 HCAPLUS

PRAI 1999EP-0109295

2000CN-0808135

2000EP-0935031

2004EP-0001441

2000WO-EP04376

2002US-0979922

125:328501 Preparation of 5-aminobenzofuran-2-carboxylates as drug intermediates Bathe, Andreas; Helfert, Bernd; Boettcher, Henning; Schuster, Kurt

19990527

20000516

20000516

20000516

20000516

20020408

Merck Patent Gmbh, Germany

SO Eur. Pat. Appl., 13 pp.

CODEN: EPXXDW

DT	Patent				
LA	German				
FAN.	CNT 1				
	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP738722	Al	19961023		19960411
	EP738722	Bl	20030625		
	R: AT, BE, CH	, DE, DK	, ES, FR,	GB, GR, IE, IT, LI, LU,	NL, PT, SE
	DE19514567	Al	19961024		19950420
	EP1215210	Al A2	20020619	2002EP-0006144	19960411
	EP1215210	A3	20020626		
		Bl	20061018		
			, ES, FR,	GB, GR, IT, LI, LU, NL,	SE, PT, IE,
	SI, LT, LV				
	AT243689	T	20030715		19960411
	PT738722	I	20031128		19960411
	ES2201143	<b>T</b> 3	20040316		19960411
	AT342893	I	20061115	2002AT-0006144	19960411
	ES2275765	<b>T</b> 3	20070616		19960411
	CN1140171	A	19970115		19960416
	AU9650734	A	19961031	1996AU-0050734	19960417
	AU704495	B2	19990422		
	RU2159238	C2	20001120		19960417
	SK284862	В6	20060105	1996SK-0000486	19960417
	SK285224	В6	20060907		19960417
	CA2174494	A1	19961021		19960418
	NO9601579	A	19961021		
	ZA9603155	A	19961025		19960419 19960419
	JP08291161 JP3874837	A B2	19961105	1996JP-0120781	19960419
	HU9601033	B2 A2	20070131	30001111 0003033	100/0410
	US5723614	A2 A	19971028		19960419 19960419
	CZ294697	А В6	20050216		19960419
	US5977112	A	19991102		
	JP2006290905	A	20061026		20060807
DPAT	1995DE-1014567	A	19950420	20000P-0214600	20000007
5V4T	1995DE-1014567 1996EP-0105701	A A3	19950420		
	1996JP-0120781	A3	19960411		
	1996US-0634825	A3	19960419		
	199003-0034623	77	13300413		

MARPAT 125:328501

Title compds. [I; R = cyano, CO2H, alkoxycarbonyl, etc.; R1 = NH2, piperazino, (N-benzyl)piperazinyl, etc.] were prepared Thus, Et  ${\small 5-nitrobenzofuran-2-carboxylate\ (preparation\ described)\ was\ converted\ in\ 5}$ steps to 5-piperazinobenzofuran-2-carboxamide.

163521-12-8P

RL: PNU (Preparation, unclassified); PREP (Preparation) (preparation of 5-aminobenzofuran-2-carboxylates as drug intermediates) 163521-12-8 HCAPLUS

2-Benzofurancarboxamide, 5-[4-[4-(5-cyano-1H-indol-3-yl)butyl]-1piperazinyl)- (CA INDEX NAME)

L28 ANSWER 15 OF 16 HCAPLUS COPYRIGHT 2008 ACS on STN (Continued)

L28 ANSWER 16 OF 16 HCAPLUS COPYRIGHT 2008 ACS on STN (Continued)

L28 ANSWER 16 OF 16 HCAPLUS COPYRIGHT 2008 ACS on STN
AN 1995:586488 HCAPLUS
DN 123:9463
TI Preparation of (indolylalkyl)piperidines and -piperazines as drugs.
IN Boettcher, Henning; Seyfried, Christoph; Bartoszyk, Gerd
; Greiner, Hartmut

Merck Patent G.m.b.H., Germany Ger. Offen., 12 pp. CODEN: GWXXBX so

Patent

FAN.	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
ΡI	DE4333254	 A1	19950406	1993DE-4333254	19930930
		Al		1994EP-0114798	
		B1	19970528	100405-0114700	10040020
				GB, GR, IE, IT, LI, LU,	NL, PT, SE
	AT153663	Ţ	19970615	1994AT-0114798	19940920
	ES2105454	T3	19971016	1994ES-0114798	19940920
	AU9474244	A	19950413	1994AU-0074244	19940927
	AU679774	B2	19970710		
	CN1106811	A	19950816	1994CN-0116585	19940927
	CN1056610	В	20000920		
	CA2133152	C	19950331	1994CA-2133152	19940928
	CA2133152	Al	19950331		
	JP07149762	A	19950613	1994JP-0233538	19940928
	PL178137	В1	20000331	1994PL-0305216	19940928
	CZ293558	B6	20040616	1994CZ-0002370	19940928
	NO9403616	A	19950331	1994NO-0003616	19940929
	NO306948	Bl	20000117		
	ZA9407622	A	19950516	1994ZA-0007622	19940929
	HU71833	A2	19960228	1994HU-0002806	19940929
	HU218918	В	20001228		
	US5532241	A	19960702	1994US-0314734	19940929
	RU2132848	Cl	19990710	1994RU-0035660	19940929
	SK281793	B6	20010806	1994SK-0001184	19940929
	JP2007119502	A		2007JP-0034671	20070215
PRAI	1993DE-4333254	A	19930930		
	1994JP-0233538	A3	19940928		
os	MARPAT 123:9463				

Title compds. [I; X = (HO-, alkoxy-, cyano-, halo-, R2CO-, R2CH2-substituted) 3-indolyl; R1 = (cyano-, HOCH2-, alkoxymethyl-, R2CO-substituted) benzofuran-5-yl, 2,3-dihydrobenzofuran-5-yl, chroman-6-yl, chroman-4-on-5-yl, 3-chromen-6-yl, chromen-4-on-6-yl; Q = (CH2)m; Z = N, CR3; R2 = OH, alkoxy, amino; R3 = H, OH, alkoxy; m = 2-4), were prepared having 5-HT1A agonist activity, etc. (no data). Thus, 3-(4-chlorobutyl)-5-methoxyindole and 1-(2-hydroxymethylbenzofuran-5-yl)piperazine were refluxed in MeCN to give 1-[4-(5-methoxyindol-3-yl)butyl]-4-(2-hydroxymethylbenzofuran-5-yl)piperazine.

IT 163521-12-8P
RL: BAC (Biological activity or effector, except adverse): BSU (Biological)

163521-12-8P
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
 (preparation of (indolylalkyl)piperidines and -piperazines as drugs)
163521-12-8 HCAPLUS
2-Benzofurancarboxamide, 5-[4-[4-(5-cyano-1H-indol-3-yl)butyl]-1piperazinyl]- (CA INDEX NAME)

=> d bib abs hitstr 129 tot

L29 ANSWER 1 OF 17 HCAPLUS COPYRIGHT 2008 ACS on STN 2005:1171443 HCAPLUS DN 143:432676 New pharmaceutical compositions for the treatment of sexual disorders ΤI Mendla, Klaus; Pyke, Robert; Eisenreich, Wolfram; Friedl, Thomas Boehringer Ingelheim International GmbH, Germany; Boehringer Ingelheim Pharmaceuticals, Inc.; Boehringer Ingelheim Pharma GmbHH & Co. KG so PCT Int. Appl., 71 pp. CODEN: PIXXD2 DT Patent English FAN.CNT 1 PATENT NO. KIND DATE APPLICATION NO. DATE 20051103 20050418 <--W02005102342 A1 2005WO-EP04081 AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KP, KR, KZ,  $\label{eq:lc_lk} \texttt{LC, LK, LR, LS, LI, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA,}$ NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT,  $\,$ RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG AU2005235422 20051103 2005AU-0235422 20050418 <--A1 Al 20051103 2005CA-2563743 CA---2563743 20050418 <--EP---1740181 Al 20070110 2005EP-0736586 R: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LI, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, AL, BA, HR, LV, MK, YU 20050418 <--CN---1946404 20070411 CN 2005-80012692 BR2005010074 20071016 2005BR-0010074 20050418 <--Α JP2007533686 2007JP-0508810 20050418 <--20071122 US2005245539 Al 20051103 2005US-0110449 20050420 <--IN2006DN06048 20070427 2006IN-DN06048 20061017 <--2006MX-PA12059 MX2006PA12059 Α 20070125 20061018 <--KR2007014184 Α 20070131 2006KR-0724443 20061121 <--PRAI 2004US-564662P 20040422 <--2004US-631800P 20041130 2005WO-EP04081 20050418 MARPAT 143:432676 The invention relates to new pharmaceutical compns. for the treatment of sexual disorders and methods for the preparation thereof. In a preferred embodiment, the instant invention is directed to pharmaceutical combinations comprising flibanserin as one active ingredient in combination with at least one addnl. active ingredient for the treatment of sexual disorders and methods for the preparation thereof. IT 163521-12-8, Vilazodone RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses) (new pharmaceutical compns. for treatment of sexual disorders) 163521-12-8 HCAPLUS 2-Benzofurancarboxamide, 5-[4-[4-(5-cyano-1H-indol-3-yl)butyl]-1piperazinyl] - (CA INDEX NAME)

2005:1004550 HCAPLUS 143:311967 Compositions for treating psychiatric disorders with COX-2 inhibitors alone and in combination with antidepressant agents Stephenson, Diane; Taylor, Duncan P. Pharmacia Corporation, USA PCT Int. Appl., 200 pp. English FAN.CNT 1 PATENT NO. KIND DATE APPLICATION NO. DATE WO2005084654 2005WO-US06818 20050302 <--A2 20050915 W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG 20050915 CA---2556380 A1 2005CA-2556380 20050302 <---EP---1725222 20061129 2005EP-0724377 20050302 <--A2 AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LI, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR BR2005008254 20070724 2005BR-0008254 20050302 <--JP2007526328 20070913 2007JP-0501959 20050302 <--2006MX-PA09919 20060831 <--MX2006PA09919 20061116 PRAI 2004US-549281P 20040302 <--2005WO-US06818 20050302 The present invention relates to a novel method of treating and/or preventing psychiatric disorders in a subject by administering to the subject at last one Cox-2 inhibitor alone or in combination with one or more antidepressant agents. Compns., pharmaceutical compns. and kits are also described. Thus, celecoxib was prepared starting from 4'-methylacetophenone and ethyltrifluoroacetate followed by reaction with 4-sulfonamidophenylhydrazine. A composition is obtained by mixing sertraline 163521-12-8, Vilazodone RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses) (compns. for treating psychiatric disorders with COX-2 inhibitors alone and in combination with antidepressant agents) 163521-12-8 HCAPLUS 2-Benzofurancarboxamide, 5-[4-[4-(5-cyano-1H-indol-3-yl)butyl]-1piperazinyl] - (CA INDEX NAME)

L29 ANSWER 2 OF 17 HCAPLUS COPYRIGHT 2008 ACS on STN

L29 ANSWER 1 OF 17 HCAPLUS COPYRIGHT 2008 ACS on STN (Continued)

RE.CNI 6 THERE ARE 6 CITED REFERENCES AVAILABLE FOR THIS RECORD ALL CITATIONS AVAILABLE IN THE RE FORMAT

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L29 ANSWER 3 OF 17 HCAPLUS COPYRIGHT 2008 ACS on STN
    2005:673104 HCAPLUS
     143:146710
     Weak to average strength opioids or their combinations containing
     antidepressants for the treatment of depressions and anxiety disorders
     Bloms-Funke, Petra; Tzschentke, Thomas
    Gruenenthal G.m.b.H., Germany
    PCT Int. Appl., 24 pp.
     CODEN: PIXXD2
     Patent
    German
FAN.CNT 1
     PATENT NO.
                         KIND
                               DATE
                                            APPLICATION NO.
                                                                   DATE
PI W02005067916
                               20050728
                                           2005WO-EP00255
                          Al
                                                                   20050113 <--
         W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH,
             CN, CO, CR, CU, CZ, DK, DM, DZ, EC, EE, EG, ES, FI, GB,
             GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK,
             LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO,
             NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ,
             TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW
         RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM,
             AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK,
             EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT,
             RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML,
             MR, NE, SN, TD, TG
                                          DE 2004-102004011392 20040305 <--
                               20050804
     DE102004011392
                         A1
PRAI DE 2004-102004001968 A
                                20040113 <--
     DE 2004-102004011392 A
                               20040305 <--
     The invention relates to weak to average strength opioids or combinations of
     said opioids containing antidepressants for the treatment of depressions and
     anxiety disorders, in addition to a method for treating depressions and
     anxiety disorders. The following combinations were tested on rats in the
     elevated plus maze test: tilidine with nisoxetine, tilidine with
     venflaxine and pethidin with nisoxetine.
    163521-12-8, Vilazodone
     RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL
     (Biological study); USES (Uses)
        (weak to average strength opioids or their combinations containing
        antidepressants for treatment of depressions and anxiety disorders)
     2-Benzofurancarboxamide, 5-[4-[4-(5-cyano-1H-indol-3-yl)butyl]-1-
     piperazinyl] - (CA INDEX NAME)
          (CH<sub>2</sub>)<sub>4</sub>
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THERE ARE 7 CITED REFERENCES AVAILABLE FOR THIS RECORD

ALL CITATIONS AVAILABLE IN THE RE FORMAT

RE.CNT 7

L29 ANSWER 4 OF 17 HCAPLUS COPYRIGHT 2008 ACS on STN

2005:547557 HCAPLUS

143:53543 ΤI The combination of a serotonin reuptake inhibitor and a histamine 3 receptor antagonist, inverse agonist or partial agonist, and therapeutic

Cremers, Thomas Ivo Franciscus Hubert; Hogg Willigers, Sandra H. Lundbeck A/S, Den.

PCT Int. Appl., 36 pp. CODEN: PIXXD2

Patent

LA FAN.	English																	
					KIND DATE				APPL									
PI	WO2005056056 WO2005056056				A2		2005	0623	2004WO-DK00862									<
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		NO,	ΝZ,	OM,	PG,	PH,	PL,	PT,	RO,	RU,	SC,	SD,	SE,	SG,	SK,	SL,	SY,	
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	RW:		•	•	•		MW,	•							,	,		
							RU,											
							GR,											
		,		,	,	,	BF,	ВJ,	CF,	CG,	CI,	CM,	GΑ,	GN,	GQ,	GW,	ML,	
		,	,	,	TD,		0005				^	0000	^ -			^^-		
	AU20042				A1		2005											
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	EP16		-				2006								_			
	к:			•			CZ,									HU,	ΙĽ,	
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	CN18						2007			CN 2								
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	MX2006P.									2006					_			
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	US20070						2007			2006								
PRAI	2003DK-		_				2003								_			•
	2003US-				P		2003											

W 20041214 The invention discloses the use of a serotonin reuptake inhibitor and a  ${\rm H3}$ receptor antagonist, inverse agonist or partial agonist for the preparation of a pharmaceutical composition for the treatment of depression, anxiety disorders and other affective disorders, such as generalized anxiety disorder, panic anxiety, obsessive compulsive disorder, acute stress disorder, post traumatic stress disorder and social anxiety disorder, eating disorders such as bulimia, anorexia and obesity, phobias, dysthymia, premenstrual syndrome, cognitive disorders, impulse control disorders, attention deficit hyperactivity disorder, drug abuse or any other disorder  $% \left( 1\right) =\left( 1\right) \left( 1\right) +\left( 1\right) \left( 1\right) \left( 1\right) +\left( 1\right) \left( 1\right)$ responsive to serotonin reuptake inhibitor. 163521-12-8, Vilazodone

RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)

(combination of serotonin reuptake inhibitor and H3 receptor antagonist, inverse agonist or partial agonist, and therapeutic use) 163521-12-8 HCAPLUS

2-Benzofurancarboxamide, 5-[4-[4-(5-cyano-1H-indol-3-yl)butyl]-1-

piperazinyl) - (CA INDEX NAME)

20071122

20041117

20031119 <--

20031202 <--

20040128 <--

2007US-0595800

A1

Α

CASREACT 143:26625; MARPAT 143:26625

20070221 <--

US2007270428

2003GB-0027937

2004GB-0001862

2004WO-EP13070

PRAI 2003GB-0026967

GI

Use of title compds. e.g. [I; Rl = H, alkyl, fluoroalkyl, alkenyl, alkynyl, cycloalkylalkyl, bridged cycloalkyl, etc.; R2 = fluoroalkyl; R3 = alkyl, amino, carboxamide) for preparation of a medicament for treatment of depressive disorders is claimed. Thus, a mixture of 4-methylthioacetophenone and Me trifluoroacetate in MeOCMe3 was treated over 30 min. with NaOMe in MeOH followed by heating at 40° for ≥3 h. AcOH and S-Me 2-thiopseudourea were added followed by concentration and heating at 110° overnight. AcOH was added and the mixture was cooled to  $50^{\circ}$  followed by addition of aqueous Na tungstate and then 30% H202 over 3 h. followed by heating at  $50^{\circ}$  for  $\geq 12$  h. The mixture was cooled to  $20^{\circ}$  and aqueous Na sulfite was added over  $\geq 30$  min. followed by aging for 1 h to give 90% 2-methylsulfonyl-4-[4-(methylsulfonyl)phenyl]-6-trifluoromethylpyrimidine. The latter was heated overnight with K2CO3 in MeOH at 50° to give 88.4%  $2-butoxy-4-[4-(methylsulfonyl)phenyl]-6-trifluoromethylpyrimidine \ (II)\ .$ In the chronic inescapable shock in rats model, II at 10 mg/kg orally with paroxetine 5 mg/kg orally gave a full reversal of the chronic escape deficit. 163521-12-8, EMD 68843

RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses) (coadministration; preparation of pyridines, pyrimidines, and L29 ANSWER 4 OF 17 HCAPLUS COPYRIGHT 2008 ACS on STN (Continued)

L29 ANSWER 5 OF 17 HCAPLUS COPYRIGHT 2008 ACS on STN (Continued) pyrazolopyridazines as cyclooxygenase-2 inhibitors for the treatment of depressive disorders)

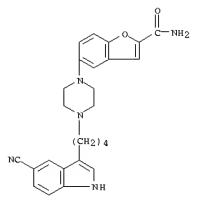
163521-12-8 HCAPLUS 2-Benzofurancarboxamide, 5-[4-[4-(5-cyano-1H-indol-3-yl]butyl]-1piperazinyl] - (CA INDEX NAME)

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L29 ANSWER 6 OF 17 HCAPLUS COPYRIGHT 2008 ACS on STN
     2005:177917 HCAPLUS
     142:274044
     The combination of a serotonin reuptake inhibitor and a glycine
ΤI
     transporter type 1 (GlyT-1) inhibitor for the treatment of depression,
     anxiety, and other affective disorders
     Didriksen, Michael; Hogg Willigers, Sandra; Arnt, Jorn
     H. Lundbeck A/S, Den.
     PCT Int. Appl., 39 pp.
     CODEN: PIXXD2
     Patent
     English
FAN.CNT 1
     PATENT NO.
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                                 DATE
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                                  20050303
     WO2005018676
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              GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC,
             LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW
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                                                                         20040818 <---
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                                   20070622
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     IN2006CN00613
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                                                                         20060221 <--
                                                2006NO-0001167
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                                                2006US-0568133
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                                   20061005
                                                                         20060509 <--
                                   20030821 <--
PRAI 2003DK-0001198
                            Α
                                   20030821 <--
     2003US-496738P
     2004WO-DK00547
                                   20040818
     The invention discloses the use of a compound which is a serotonin reuptake
     inhibitor and a compound, which is a GlyT-1 inhibitor for the preparation of a
     pharmaceutical composition for the treatment of depression, anxiety disorders, and other affective disorders. In particular the invention relates to treatment of depression, anxiety disorders, and other affective disorders,
     e.g. generalized anxiety disorder, panic anxiety, obsessive compulsive
     disorder, acute stress disorder, post traumatic stress disorder and social
     anxiety disorder, eating disorders such as bulimia, anorexia and obesity,
     phobias, dysthymia, premenstrual syndrome, cognitive disorders, impulse
     control disorders, attention deficit hyperactivity disorder, drug abuse or
     any other disorder responsive to serotonin reuptake inhibitors. The
     invention also discloses a pharmaceutical composition comprising a serotonin
     reuptake inhibitor and a GlyT-1 inhibitor.
     163521-12-8, Vilazodone
     RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL
     (Biological study); USES (Uses)
(serotonin reuptake inhibitor-glycine transporter type 1 inhibitor
         combination for treatment of depression, anxiety, and other affective
     163521-12-8 HCAPLUS
     2-Benzofurancarboxamide, 5-[4-[4-(5-cyano-1H-indol-3-yl)butyl]-1-
     piperazinyl]- (CA INDEX NAME)
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```
2005:136555 HCAPLUS
     142:212407
     Selective serotonin reuptake inhibitors for the treatment of premature
      female orgasm
     May, Kathryn Elizabeth; Quinn, Paul
     Pfizer Limited, UK; Pfizer Inc.
     PCT Int. Appl., 20 pp.
     English
FAN.CNT 1
     PATENT NO.
                            KIND
                                    DATE
                                                  APPLICATION NO.
                                                                            DATE
    WO2005013984
                                                                            20040727 <---
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               GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC,
              LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW
          RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM,
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               SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE,
               SN, TD, TG
     US2005054688
                             A1
                                    20050310
                                                2004US-0911806
                                                                            20040805 <--
PRAI 2003GB-0018706
                                    20030808 <--
      2003US-528136P
                                    20031209 <--
     The present invention provides selective serotonin reuptake inhibitors
      (SSRIs) and their use in the preparation of a medicament for the treatment or
     prevention of premature female orgasm. For example, a tablet formulation contained SSRI compound 10.0%, lactose 64.125%, starch 21.375%,
      Croscarmellose sodium 3.0%, and magnesium stearate 1.5%.
     163521-12-8, Vilazodone
     RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
         (compns. of selective serotonin reuptake inhibitors for treatment of
         premature female orgasm)
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2-Benzofurancarboxamide, 5-[4-[4-(5-cyano-1H-indol-3-yl)butyl]-1-

L29 ANSWER 7 OF 17 HCAPLUS COPYRIGHT 2008 ACS on STN



163521-12-8 HCAPLUS

piperazinyl) - (CA INDEX NAME)

RE.CNT 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD ALL CITATIONS AVAILABLE IN THE RE FORMAT

L29 ANSWER 6 OF 17 HCAPLUS COPYRIGHT 2008 ACS on STN (Continued)

RE.CNT S THERE ARE S CITED REFERENCES AVAILABLE FOR THIS RECORD ALL CITATIONS AVAILABLE IN THE RE FORMAT

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L29 ANSWER 8 OF 17 HCAPLUS COPYRIGHT 2008 ACS on STN
AN
     2004:452952 HCAPLUS
     141:1296
     Method of using a cyclooxygenase 2 (COX-2) inhibitor and a 5-HT1A receptor
     modulator as a combination therapy for pain, inflammation, and other
     conditions
     Stephenson, Diane T.; Taylor, Duncan P.
     Pharmacia Corporation, USA
     PCT Int. Appl., 195 pp.
     Patent
     English
FAN.CNT 1
     PATENT NO.
                           KIND
                                   DATE
                                                APPLICATION NO.
                                                                          DATE
    WO2004045509
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                                   20040826
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              OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM,
              TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW
          RW: BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ,
              BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE,
              ES, FI, FR, GB, GR, HU, IE, II, LU, MC, NL, PT, RO, SE, SI, SK,
              TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG
47581 A1 20040729 2003US-0702403 20031105 <--
     US2004147581
     AU2003295431
                            Al
                                   20040615
                                                2003AU-0295431
                                                                          20031111 <--
PRAI 2002US-427198P
                                   20021118 <--
     2003WO-US35739
                                   20031111 <--
     Compns. and methods to treat or prevent pain, inflammation, or
     inflammation-related disorder, as well as a neurol. disorder involving
     neurodegeneration involve a combination of a COX-2 inhibitor and a S-HTLA
     receptor modulator.
     163521-12-8, Vilazodone
     RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL
     (Biological study); USES (Uses)
         (COX2 inhibitor-5-HTIA modulator combination for treatment of pain.
        inflammation, and other conditions)
     163521-12-8 HCAPLUS
     2-Benzofurancarboxamide, 5-[4-[4-(5-cyano-1H-indol-3-yl)butyl]-1-
     piperazinyl] - (CA INDEX NAME)
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L29 ANSWER 9 OF 17 HCAPLUS COPYRIGHT 2008 ACS on STN

AN 2004:371979 HCAPLUS DN 140:368059

TI Phase I and II enzyme characterization of two sources of HepG2 cell lines

AU Hewitt, N. J.; Hewitt, P.

CS In Vitro Technologies, Baltimore, MD, 21227, USA SO Xenobiotica (2004), 34(3), 243-256

CODEN: XENOBH; ISSN: 0049-8254
PB Taylor & Francis Ltd.

DT Journal

English The metabolism by HepG2 cell from two sources (M1, M2) of 12 substrates is reported: ethoxyresorufin, ethoxycoumarin, testosterone, tolbutamide, chlorzoxazone, dextromethorphan, phenacetin, midazolam, acetaminophen, hydroxycoumarin, p-nitrophenol and 1-chloro-2,4-dinitrobenzene (CDNB), and a pharmaceutical compound, EMD68843. Activities varied markedly. Some were present in M1 (CYP1A, CYP2C9, CYP2E1) but absent in M2. M1 had a more complete set of Phase I enzymes than M2. CYP1A2, CYP2C9, CYP2D6, CYP2E1 and CYP3A activities were present at levels similar to human hepatocytes. Phase II metabolism differed between M1 and M2. M1 conjugated hydroxycoumarin and p-nitrophenol to glucuronides only, whereas M2 produced sulfates. Glutathione conjugation of CDNB metabolism was 10-fold higher in M1 than in M2, but was still much lower than in human hepatocytes. CYP2E, CYP2C, CYP2B6 and CYP3A (but not CYP1A, glucuronyl S-transferase or S-transferase) were inducible in M1. Metabolites of EMD68843, produced by induced (but not uninduced) M1 were the same as those produced in human hepatocytes. In conclusion, HepG2 cells have both Phase I and II enzymes, which activities and at what levels depend on the source and culture conditions. Therefore, HepG2 cells routinely used in in vitro assays should be characterized for their drug-metabolizing capabilities before any results can be fully interpreted. 163521-12-8, EMD68843

T 163521-12-8, EMD68843

RL: BSU (Biological study, unclassified); BIOL (Biological study)

(phase I and II metabolism of substrates by two sources of HepG2 cell
lines)

RN 163521-12-8 HCAPLUS

N 2-Benzofurancarboxamide, 5-[4-[4-(5-cyano-1H-indol-3-yl]butyl]-1-piperazinyl]- (CA INDEX NAME)

RE.CNT 42 THERE ARE 42 CITED REFERENCES AVAILABLE FOR THIS RECORD ALL CITATIONS AVAILABLE IN THE RE FORMAT

L29 ANSWER 10 OF 17 HCAPLUS COPYRIGHT 2008 ACS on STN (Continued)

RE.CNT 2 THERE ARE 2 CITED REFERENCES AVAILABLE FOR THIS RECORD ALL CITATIONS AVAILABLE IN THE RE FORMAT

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ANSWER 10 OF 17 HCAPLUS COPYRIGHT 2008 ACS on STN
     2004:2708 HCAPLUS
AN
DN
     140:53450
      Serotonin reuptake inhibitor combination with a GABAB receptor antagonist
ΤI
      for the treatment of depression and other disorders
     Mork, Arne; Cremers, Thomas Ivo Franciscus Hubert; Willigers, Sandra
     H. Lundbeck A/S, Den.
      PCT Int. Appl., 42 pp.
so
      CODEN: PIXXD2
DT
     Patent
     English
FAN.CNT 1
      PATENT NO.
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PRAI 2002DK-0000943
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      2003CA-2490638
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      2003WO-DK00412
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     The invention relates to the use of a compound, which is a serotonin reuptake inhibitor, and another compound, which is a GABAB receptor
      antagonist, inverse agonist or partial agonist for the preparation of a
      pharmaceutical composition for the treatment of depression, anxiety disorders
      and other affective disorders, such as generalized anxiety disorder, panic
     anxiety, obsessive compulsive disorder, acute stress disorder, post traumatic stress disorder and social anxiety disorder, eating disorders
      such as bulimia, anorexia and obesity, phobias, dysthymia, premenstrual
      syndrome, cognitive disorders, impulse control disorders, attention
      deficit hyperactivity disorder, drug abuse or any other disorder
      responsive to serotonin reuptake inhibitors.
     163521-12-8, Vilazodone
      RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL
      (Biological study); USES (Uses)
         (serotonin reuptake inhibitor combination with a GABAB receptor
         modulator for treatment of depression and other disorders)
     163521-12-8 HCAPLUS
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2-Benzofurancarboxamide, 5-[4-[4-(5-cyano-1H-indol-3-yl)butyl]-1-piperazinyl]- (CA INDEX NAME)

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L29 ANSWER 11 OF 17 HCAPLUS COPYRIGHT 2008 ACS on STN
    2003:1006815 HCAPLUS
AN
     140:35974
     Treatment for depression and anxiety by the combination of a PDE IV
     inhibitor and an antidepressant or an anxiolytic agent
     Sobolov-Jaynes, Susan Beth; Schmidt, Christopher Joseph
     Pfizer Products Inc., USA
     PCT Int. Appl., 62 pp.
     CODEN: PIXXD2
     Pateni
LA
    English
FAN.CNT 1
     PATENT NO.
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                                            APPLICATION NO.
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             GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR,
             LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH,
             PL, PT, RO, RU, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA,
             UG. US. UZ. VN. YU. ZA. ZM. ZW
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             FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR,
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35631 Al 20031225 2003US-0387060 20030312
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                                20031231
                                            2003AU-0233032
                                                                    20030605 <--
                          A1
     EP---1517707
                                20050330
                                            2003EP-0727833
                                                                    20030605 <--
                          Al
         R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,
             IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK
     BR2003011903
                                                                    20030605 <--
                                20050607
                                            2003BR-0011903
     JP2005533788
                                20051110
                                            2004JP-0512802
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     MX2004PA11835
                                20050331
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                                                                    20041126 <--
     IN2004CN03177
                                20060303
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                                                                    20041213 <--
PRAI 2002US-389181P
                                20020617
     2003WO-IB02295
                                20030605 <--
    MARPAT 140:35974
    The present invention relates to a method of treating depression or
     anxiety in a mammal, including a human, by administering to the mammal a
     PDE IV inhibitor in combination with an antidepressant or an anxiolytic
     agent. It also relates to pharmaceutical compns. containing a
     pharmaceutically acceptable carrier, a PDE IV inhibitor and an anxiolytic
     agent or antidepressant.
    163521-12-8
     RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL
     (Biological study); USES (Uses)
        (treatment for depression and anxiety by combination of a PDE IV
        inhibitor and an antidepressant or an anxiolytic agent)
    163521-12-8 HCAPLUS
     2-Benzofurancarboxamide, 5-[4-[4-(5-cyano-1H-indol-3-yl)butyl]-1-
     piperazinyl)- (CA INDEX NAME)
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ALL CITATIONS AVAILABLE IN THE RE FORMAT

(CH<sub>2</sub>)<sub>4</sub>

L29 ANSWER 12 OF 17 HCAPLUS COPYRIGHT 2008 ACS on STN (Continued)

THERE ARE 54 CITED REFERENCES AVAILABLE FOR THIS RECORD RE.CNT 54 ALL CITATIONS AVAILABLE IN THE RE FORMAT

L29 ANSWER 12 OF 17 HCAPLUS COPYRIGHT 2008 ACS on STN AN 2002:659259 HCAPLUS

138:248340

Behavioral and neurochemical effects of 5-{4-[4-((5-cyano-3-ΤI indolyl)butyl)butyl]-1-piperazinyl;benzofuran-2-carboxamide (EMD 68843): a combined selective inhibitor of serotonin reuptake and 5-hydroxytryptaminelA receptor partial agonist

Page, Michelle E.; Cryan, John F.; Sullivan, Arthur; Dalvi, Ashutosh; Saucy, Berangere; Manning, David R.; Lucki, Irwin Department of Psychiatry, University of Pennsylvania, Philadelphia, PA,

Journal of Pharmacology and Experimental Therapeutics (2002), 302(3), 1220-1228

CODEN: JPETAB; ISSN: 0022-3565

American Society for Pharmacology and Experimental Therapeutics

Journal

 ${\tt EMD}$  68843 (vilazodone) is a novel compound with combined high affinity and selectivity for the 5-hydroxytryptamine (5-HT) transporter and 5-HT1A receptors. EMD 68843 was tested as a prototype compound, which benefits from dual pharmacol. effects that could increase extracellular 5-HT to levels higher than those produced by conventional selective serotonin reuptake inhibitors (SSRIs). In Sf9 cells, EMD 68843 increased guanosine 5'-O-(3-[35S] thiotriphosphate) binding to 69% of the magnitude of the full 5-HT1A receptor agonist R-(1)-trans-8-hydroxy-2-[N-n-propyl-N-(39-iodo-29propenyl)]aminotetralin (8-OH-PIPAT), indicating that it is a partial agonist at 5-HT1A receptors. Acute, systemic administration of EMD 68843 produced a larger maximal increase of extracellular 5-HT than the SSRI fluoxetine in both the ventral hippocampus (HPV) (558 vs. 274%) and the frontal cortex (FC) (527 vs. 165%). Regional differences in the response to the two drugs were also observed. These effects may be attributed to the differential regulation of S-HT release in the HPv and FC by S-HT1Aautoreceptors. When challenged with the 5-HT1A receptor agonist 8-hydroxy-2-(dipropylamino)tetralin (8-OH-DPAT), EMD 68843-induced increases in extracellular 5-HT were greatly reduced in the HPv but to a lesser extent in the FC. In behavioral studies, EMD 68843 produced antidepressant-like effects in the forced swimming test in both rats and mice but only within a narrow dosage range. Like fluoxetine, EMD 68843 did not produce the symptoms of the 5-HT behavioral syndrome in rats but, unlike fluoxetine, pretreatment with EMD 68843 blocked expression of the 5-HT behavioral syndrome induced by 8-OH-DPAT. Taken together, the results show that EMD 68843 augments extracellular 5-HT levels in forebrain regions to a greater extent than fluoxetine. At higher doses, however, weak efficacy of EMD 68843 at postsynaptic 5-HT1A receptors may inhibit the expression of rodent antidepressant-like behaviors.

163521-12-8, Vilazodone RL: PAC (Pharmacological activity); BIOL (Biological study) (behavioral and neurochem. effects of EMD 68843, a combined selective inhibitor of serotonin reuptake and 5-HTA receptor partial agonist) 163521-12-8 HCAPLUS

2-Benzofurancarboxamide, 5-[4-[4-(5-cyano-1H-indol-3-yl)butyl]-1-

piperazinyl]- (CA INDEX NAME)

L29	ANSWER 1	3 01	F 17	HC.	APLU.	s c	OPYR	TGHT	200	8 AC	S on	STN						
AN	2001:713																	
DN	135:2519																	
TI	Compound		ith.	5-HT	IA a	aon i	st a	ctiv	itv	usefi	ul f	or c	ontr	olli	na			
	glaucoma														9			
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DT	Patent																	
LA	English																	
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	PATENT N															ATE		
ΡI	WO200107						20010927			2001						0010	223	/
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	ES220	484	8		Т3		2004	0501		2001	ES-1	9182	80		2	0010	223	<
	TW26	877	7		В		2006	1221		TW 2	001-	9010	6235		2	0010	316	<
	ZA200200	635	0		А		2003	8080		2002								
	US200311	9846	ó		Al		2003	0626		20021	US-0	2210.	56		2	0020	909	<

2001WO-US05740 20010223 <--Compds. with 5-HT1A agonist activity, e.g. buspirone, are disclosed which are useful for controlling the visual field loss associated with glaucoma. Ophthalmic formulations are included.

20030312

20000317

RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES

 $(5-\mbox{HT1A agonist for controlling glaucoma-associated visual field loss, and}$ 

2002MX-PA09073

20020917 <--

use with other agents) 163521-12-8 HCAPLUS

MX2002PA09073

PRAI 2000US-190279P

2-Benzofurancarboxamide, 5-[4-[4-(5-cyano-1H-indol-3-yl)butyl]-1piperazinyl] - (CA INDEX NAME)

L29 ANSWER 14 OF 17 HCAPLUS COPYRIGHT 2008 ACS on STN AN 2001:713135 HCAPLUS

135:251988 Compounds with 5-HTla agonist activity useful for treating disorders of ΤI

the outer retina Collier, Robert J., Jr.; Kapin, Michael A.; Hellberg, Mark R.; Dean,

Thomas R. Alcon Universal Ltd., Switz.

PCT Int. Appl., 23 pp. CODEN: PIXXD2 SO

Patent

	English CNT 3																	
211111	PATENT NO.						DATE			ICAT								
PI	W020010	7022	2		A2 A3		20010927 20020725			2001						0010		<
	W:	ΑU,	BR,	CA,	CN,	JP,	KR,	MX,	PL,	US,	ZA							
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	MX2002P				A		2003			2002					_	0020		
	HK10		_		A1		2004			2003						0030		
	AU20052				A1		2005			2005						0050		
	US20052				A1		2005			2005	ປຣ-0	1874	74		2	0050	722	<
PRAI	2000 <b>U</b> S-				P		2000											
	2001WO-				W		2001											
	2002 <b>U</b> S-	0221	070		Al		2002	0909	<-	-								

2002US-0221070 Compns. and methods are disclosed for treating disorders of the outer retina with compds. with 5-HT1A agonist activity, e.g. buspirone.

163521-12-8, EMD-68843 RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)

(5-HTla agonist for treating disorder of outer retina) 163521-12-8 HCAPLUS

piperazinyl] - (CA INDEX NAME)

L29 ANSWER 15 OF 17 HCAPLUS COPYRIGHT 2008 ACS on STN

AN 2001:576904 HCAPLUS 135:352641

Distinct temporal pattern of the effects of the combined serotonin-reuptake inhibitor and 5-HT1A agonist EMD 68843 on the sleep EEG in healthy men

Murck, H.; Frieboes, R. M.; Antonijevic, I. A.; Steiger, A. Max Planck Institute of Psychiatry, Munich, 80804, Germany Psychopharmacology (Berlin, Germany) (2001), 155(2), 187-192

CODEN: PSCHDL; ISSN: 0033-3158

Springer-Verlag

DTJournal English

EMD 68843 (EMD) has properties of a serotonin (5-HT)-reuptake inhibitor and a partial 5-HT1A agonist in 1 mol. to combine antidepressive and anxiolytic properties. The authors investigated the effects of EMD on the sleep EEG to characterize how the complex interaction between these 2 properties influences the sleep  ${\tt EEG.}\,$  The authors performed a randomized crossover study in 10 young normal male controls (20-30 yr), receiving a single dose of 20 mg EMD or placebo orally at 2100 h. Sleep EEG was recorded from 23.00 to 07.00 h. After EMD, rapid eye movement (REM) sleep was nearly totally abolished. In the course of the night other effects on the sleep EEG occurred in distinct intervals. Slow wave sleep and EEG delta power increased in the 1st and 3rd one-third of the night, whereas wakefulness was enhanced in the 2nd and 3rd one-third of the night. The sleep EEG effects of EMD fit with its pharmacol. profile, which might lead to adaptive changes suggested to characterize an antidepressive substance. 163521-12-8, EMD 68843

RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES

(EMD 68843 on sleep EEG in healthy men) 163521-12-8 HCAPLUS

2-Benzofurancarboxamide, 5-[4-[4-(5-cyano-1H-indol-3-yl)butyl]-1piperazinyl) - (CA INDEX NAME)

RE.CNT 35 THERE ARE 35 CITED REFERENCES AVAILABLE FOR THIS RECORD ALL CITATIONS AVAILABLE IN THE RE FORMAT

L29 ANSWER 16 OF 17 HCAPLUS COPYRIGHT 2008 ACS on STN 2000:605068 HCAPLUS

AN 134:292112

Drug action at the 5-HT1A receptor in vivo: autoreceptor and postsynaptic receptor occupancy examined with PET and [carbonyl-11C]WAY-100635 Rabiner, E. A.; Gunn, R. N.; Wilkins, M. R.; Sargent, P. A.; Mocaer, E.;

Sedman, E.; Cowen, P. J.; Grasby, P. M. Hammersmith Hospital, MRC Cyclotron Unit, Imperial College School of

Medicine, London, UK Nuclear Medicine and Biology (2000), 27(5), 509-513

CODEN: NMBIEO; ISSN: 0969-8051 Elsevier Science Inc.

Journal

English SerotoninlA (5-HTIA) receptors have been implicated in the pathophysiol. and treatment of anxiety and depression and are a target for novel drug development. In this qual. study, positron emission tomog. (PET) and [carbonyl-11C]WAY-100635 were used to assess 5-HTIA autoreceptor and postsynaptic receptor occupancy in man in vivo by five different compds. with nanomolar affinity for this site. Occupancy by pindolol, penbutolol, buspirone, EMD 68843, and S 15535 was compared to test-retest data from 10 healthy volunteers. All drugs, apart from buspirone, displayed occupancy at the 5-HT1A receptor site. Pindolol demonstrated a preferential occupancy at the autoreceptor compared to the postsynaptic receptor over a plasma range of about  $10-20~\rm ng/mL$ . Differential occupancy may be an important component of novel drug action. The level of autoreceptor or postsynaptic occupancy needed to achieve significant physiol. effects is not known, although it is of note that none of the drugs in this study achieved occupancies beyond 60%. Overall this study demonstrates the

utility of PET in aiding novel drug development. 163521-12-8, EMD 68843 RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); BIOL (Biological study) (drug action at 5-HT1A receptor in vivo: autoreceptor and postsynaptic

receptor occupancy examined with PET and [carbonyl-11C]WAY-100635)

163521-12-8 HCAPLUS 2-Benzofurancarboxamide, 5-[4-[4-(5-cyano-1H-indol-3-yl)butyl]-1piperazinyl]- (CA INDEX NAME)

THERE ARE 41 CITED REFERENCES AVAILABLE FOR THIS RECORD RE.CNT 41 ALL CITATIONS AVAILABLE IN THE RE FORMAT

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L29 ANSWER 17 OF 17 HCAPLUS COPYRIGHT 2008 ACS on STN AN 2000:98327 HCAPLUS
            132:146650
DN
            Treating depression with a combination of a serotonin uptake inhibitor, a S-HTIA presynaptic antagonist, and a S-HTIA agonist
TI
            Depoortere, Henri
            Sanofi-Synthelabo, Fr.
            PCT Int. Appl., 36 pp. CODEN: PIXXD2
so
DT
            Patent
          French
FAN.CNT 1
            PATENT NO.
                                                            KIND DATE
                                                                                                         APPLICATION NO.
                                                                                                                                                                DATE
                    W: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK,
PI WO2000006160
                                                                                                                                                               19990726 <--
                    JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM

RW: GH, GM, KE, LS, MW, SD, SL, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG

---2781671 A1 20000204 1998FR-0009603 19980728 < --
2781670 A1 20000221 1999AU-0049167 19990726 < --
28FR-0009603 A 19980728 < --
29WO-FR01825 W 19990726 <--
20maceutical compns. are provided which contain a serotonin uptake
            FR---2781671
                                                                                                                                                                19980728 <--
AU---9949167
PRAI 1998FR-0009603
                                                                                                                                                               19990726 <--
           1999Wo-FR01825 W 19990726 <--
Pharmaceutical compns. are provided which contain a serotonin uptake
            inhibitor (e.g. fluoxetine), a 5-HT1A presynaptic antagonist (e.g. pindolol), and a 5-HT1A agonist (e.g. buspirone) as a combination product for simultaneous, sep., or prolonged use for treating various forms of
depression.
IT 163521-12-8, EMD 68843
            RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES
         (uses)
  (serotonin uptake inhibitor-5-HTlA presynaptic antagonist-5-HTlA
   agonist combination for treatment of depression)
163521-12-8 HCAPLUS
2-Benzofurancarboxamide, 5-[4-[4-(5-cyano-1H-indol-3-yl)butyl]-1-
piperazinyl]- (CA INDEX NAME)
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RE.CNT 11 THERE ARE 11 CITED REFERENCES AVAILABLE FOR THIS RECORD ALL CITATIONS AVAILABLE IN THE RE FORMAT

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              2 L6-7
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             18 L10 AND L5
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L19
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                E BARTOSZYK G/AU
L22
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L23
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